

BOMBARDIER'S **C SERIES** DEVELOPMENT

www.airlinerworld.com

Airliner World

Maximus Air

*Air Freight in the
Gulf region*

Olympic
Logojet

*Competition
Results*

787

at **Farnborough**

News from the Show



**Bodø
Airport**

**NORWAY'S
ARCTIC HUB**



**Canadian
Charters**

A HISTORY

KEY September 2012

£4.40

CAMBRIAN AIRWAYS THE WELSH DRAGON





05 **Farnborough Report**

A full review of all the news, orders and sales from the recent international airshow

12 **News**

Airline World's comprehensive coverage of worldwide news, including a picture spread of retro airline colours.

28 **Maximus Air**

Air Freight – taking it to the Max. The progress of the Gulf region's specialised outsize cargo carrier.



36 **Design an Olympic Logojet**

The results of the *Airline World* competition.



42 **Military Transports**

Airline visitors to the RAF Waddington Airshow and the Royal International Air Tattoo at Fairford.

44 **Bodo Airport**

The most important transport hub in northern Norway.

53 **Málaga Aviation Museum**

The Spanish National Museum of Airports and Air Transportation.

58 **CSeries Development**

Bombardier's 'game changer'.

66 **Cambrian Airways**

From a small air taxi and freight carrier in Wales to part of British Airways.



72 **Props in Manila**

A variety of propliners from the Philippines.



74 **Deliveries**

The latest commercial acquisitions.



78 **Aviation Training**

A review of recent developments.



80 **Departure Gate**

A selection of readers' comments and photographs.



83 **Air Safety**

Up-to-date accident reports and the most recent crash information.



84 **Trident Collection**

Memorabilia and artefacts from the tri-jet.

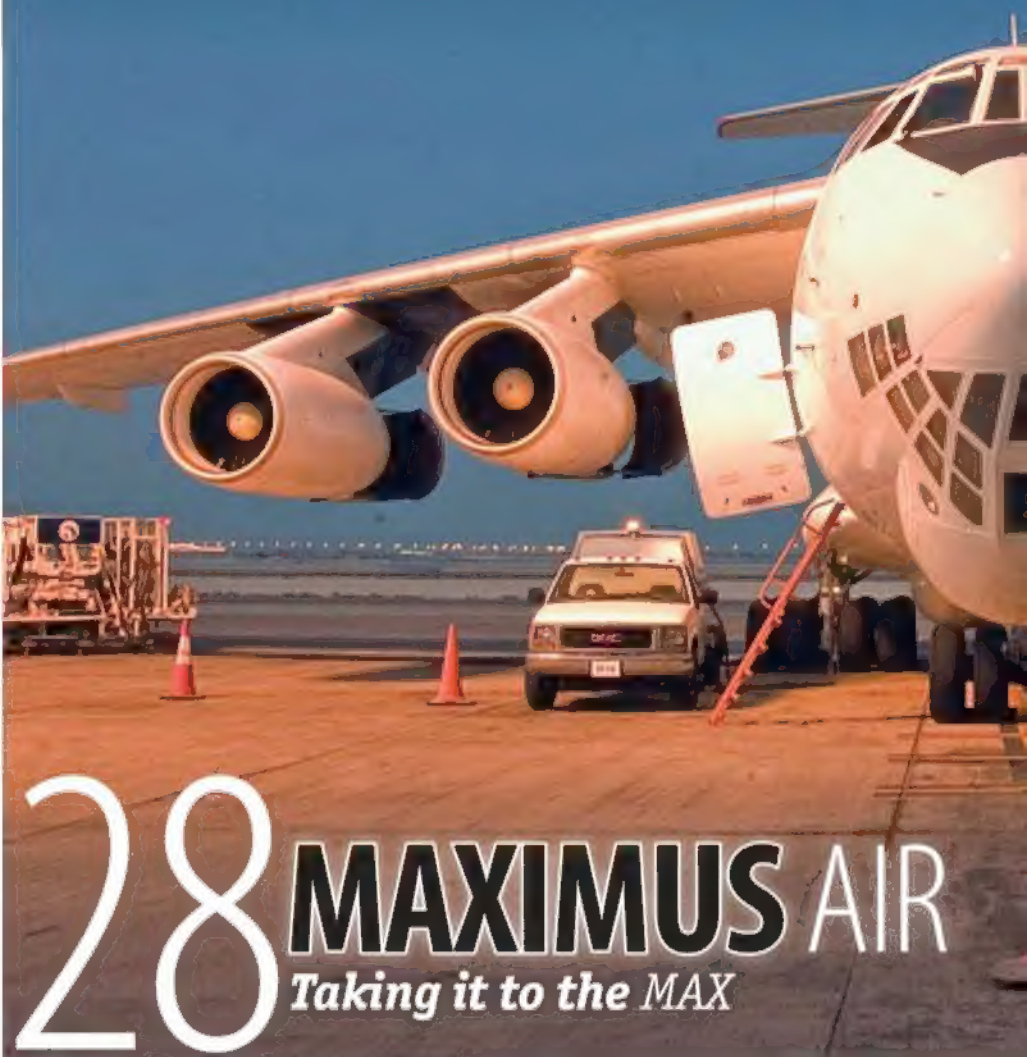
88 **Canadian Charter Airlines**

A fascinating period of airline development in North America.



Ask your newsagent to reserve your monthly copy of **Airline World** today!

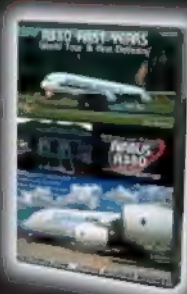
Contents



28 **MAXIMUS AIR**

Taking it to the MAX

FREE DVD!



SUBSCRIBE TO
Airline World
FOR 2 YEARS AND
CLAIM YOUR **FREE**
AIRBUS A380 FIRST
DELIVERY DVD
WORTH £12.49!

Turn to pages 34 and 35 to find out more

66





88 Canadian Charters

Airline Development in North America



24 Retro Jets

Historic liveries



36



58



05



44



53



Welcome



Airliner
World

THE TEAM

Tony Dixon
Editor

Barry Woods-Turner
Assistant Editor

Craig West
Assistant Editor

Mark Nicholls
Contributing Editor

Steve Donovan
Group Art Editor

Andy O'Neill
Art Editor

Andy Mason
Advertising Manager

Danielle Tompest
Production Controller

Sue Blunt
Production Editor

James Forsyth
Norman Wells
Sub-Editors

This page image: Air
Transat Airbus A330
(Gilbert Hecherna)

This year's Farnborough Airshow (see following pages) was very interesting in a number of ways. Although there were relatively few announcements made – in terms of sales – over \$70 billion was apparently spent by customers and this was mainly on the smaller narrowbody aircraft.

The two highlights of the event for many were the Qatar Airways' Boeing 787 Dreamliner and the Malaysia Airways' Airbus A380, but it was a great shame that neither aircraft (and several others from the static park) disappeared before the public weekend. This has unfortunately been the case at Farnborough during this writer's lifetime. Perhaps the organisers should try offering a few 'inducements' to manufacturers to keep the aircraft at the Hampshire airfield longer?

I am often dismayed by way that aviation news is reported in the general press. What appears to be a major story from the headline often turns out to be little more than a minor incident when you read on. Of course dramatic headlines sell papers, but they can cast a black cloud over an airline, airport or aircraft type and it's likely that this is what the public will remember. One of the more recent examples concerned an aircraft belonging to a UK regional carrier that had to make an emergency landing due to a "cockpit fire" with "smoke billowing into the cabin" and "passengers

screaming in panic." What had actually happened was that a fuse had blown on the aircraft's air conditioning unit and the pilot elected to make a diversion to an airport where the carrier had an engineering base to get it fixed. A spokeswoman for the company flatly denied the alarmist reports. "There was no fire in the cockpit, there was no smoke, there was no screaming, there was no emergency landing," she said. "The Air Accidents Investigation Branch confirmed it was a non-reportable incident and the aircraft was back in the air within an hour." There was no apology from the newspapers, but there should have been. How many people will now think twice about flying with a carrier that has "cockpit fires"?

Tony Dixon
Editor

Tony Dixon



Cover photo: Qatar Airways Boeing 787 Dreamliner at Farnborough.
(Airteamimages.com/Darryl Morrell)



GROUP EDITOR-IN-CHIEF
Paul Hamblin

COMMERCIAL DIRECTOR
Ann Saundry

PRODUCTION
Production Manager Janet Watkins

MARKETING
Marketing Manager Martin Steele

EXECUTIVE CHAIRMAN
Richard Cox

MANAGING DIRECTOR & PUBLISHER
Adrian Cox

EDITORIAL & ADVERTISING OFFICES
Airliner World, PO Box 100, Stamford, Lincs,
PE9 1XQ, UK. Tel: +44 (0)1780 755131
Fax: +44 (0)1780 757261

EMAIL: airlinerworld@keypublishing.com
WEB: www.airlinerworld.com

The entire contents of *Airliner World* is © copyright, and no part of it may be reproduced in any form or stored on any form of retrieval system without the prior permission of the publisher. All items submitted for publication are subject to our terms and conditions. These are regularly updated without prior notice and are freely available from Key Publishing Ltd or downloadable from www.keypublishing.com

We are unable to guarantee the bona fides of any of our advertisers. Readers are strongly recommended to take their own precautions before parting with any information or item of value, including, but not limited to, money, manuscripts, photographs or personal information in

response to any advertisements within this publication.

SUBSCRIPTIONS
Subscriptions Manager Roz Conde
Subscriptions Department,
Airliner World (ISSN: 1465-6337), is published monthly by Key Publishing Ltd, PO Box 300, Stamford, Lincs, PE9 1NA, UK. Telephone/24-hour answer machine: +44 (0) 1780 480404, Fax: +44 (0) 1780 757812, E-Mail: subs@keypublishing.com

Airliner World is distributed in the USA by Mail Right Int., 1637 Stetson Road B4, Piscataway, NJ 08854. Periodicals Postage Paid at Piscataway, NJ and additional mailing offices.

Readers in USA can place subscriptions by visiting www.airlinerworld.com or by

calling toll free 800 676 4049 or fax 757 428 6253 or by writing to *Airliner World*, 3330 Pacific Ave, Ste 500, Virginia Beach, VA 23451-9828

POSTMASTER: Send address changes to: *Airliner World*, Key Publishing Ltd, C/o Mail Right International Inc, 1637 Stetson Road B4, Piscataway NJ 08854

DISTRIBUTED (UK) BY: Seymour Distribution Ltd, 2 Poultry Avenue, London EC1A 9PP. Tel: 020 7429 4000 Fax: 020 7429 4001

PRINTED IN ENGLAND BY: Warners (Midland) plc, Bourne, Lincs. UK

abc The average sale for the period Jan - Dec 2011 was 33,039 copies monthly

Farnborough 2012

THE FARNBOROUGH International Airshow 2012 was held between July 9 and 15. Over 70 delegations from 46 countries visited with 1,506 exhibiting companies – although trade visitors overall were down 9% compared with 2010. Despite apparently being 'quiet' in terms of major aircraft orders, more than \$72 billion was spent – an increase

on the \$47 billion in 2010. Star attractions were the Qatar Airways Boeing 787 Dreamliner and the Malaysia Airlines Airbus A380, although both departed before the public days. The UK's poor summer weather caused disruption to varying degrees with many of the grassed areas being a little muddy – to say the least! (Photos Airbus)



Prime Minister at Farnborough

AT THE start of the show, Malaysia Airlines' second Airbus A380 received a VIP visit from UK Prime Minister David Cameron. He was welcomed onboard by Group CEO Ahmad Jauhari Yahya and Fabrice Brégier, President and CEO of Airbus, following the event's official opening ceremony. The carrier only started services with the type on July 2, linking Kuala Lumpur with London/Heathrow. The aircraft at Farnborough – the second of six on order – was expected to be delivered to the airline in August. At the start of the week, it participated in the daily flying programme. (Photo Airliner World)



Boeing Goes to the MAX

IN COMPARISON to the Farnborough Show in 2010 when Boeing secured orders and commitments for a mere 68 aircraft, the 2012 event was far more productive. In fact, the one single order announced on the final trade day (Thursday) amounted to 150 737s from United Continental Holdings. It took the orders for what the company promotes as "the world's most popular single-aisle jetliner" to more than 10,000 in total – and this from the world's largest airline. Equipped with new LEAP-1B engines from CFM International, and improvements such as the Advanced Technology Winglet, the company claims the new 737 MAX – due to enter service in 2017 – will reduce fuel burn and CO₂ emissions by 13% while maintaining an 8% operating cost advantage over future competition.

United Airlines

Worth \$14.7 billion at list prices, major US carrier United has made a commitment for 100 of the new 737 MAX 9s and 50 Next Generation 737-900ERs (Extended-Range).

"This order is a major step in building the world's leading airline, and we look forward to offering our customers the modern features and reliability, while also making our fleet more fuel efficient and environmentally friendly," said Jeff Smisek, United's President and CEO via a webcast at the show.

United becomes the North American launch customer for the 737 MAX 9 and means that the new variant now has more than 1,200 orders and commitments from 18 customers. Counting all variants, the 737 programme now stands at 10,039 orders.

"To witness the first commercial airplane to surpass 10,000 orders is monumental," said Beverly Wyse, Vice

President and General Manager of the 737 programme. (Photo Boeing)

Virgin Australia

Immediately prior to the show, Virgin Australia finalised a firm order for 23 737 MAXs with options for an additional four, becoming the first airline in the country to commit to the new variant.

Avolon

Irish-based aircraft lessor Avolon is to purchase ten 737 MAX 8s and five 737 MAX 9s, as well as 10 Next-Generation 737-800s. The commitment has a list-price value of \$2.3 billion and also includes reconfirmation rights for five more 737 MAXs.

"This announcement once again reflects both the scale of our ambition and the strength of our financial backing," said Domhnall Slattery, CEO of Avolon. "It also reflects our commitment to our customers as we enhance our fleet, grow our business and continue to deliver superior risk-adjusted returns for our shareholders." Once this commitment is finalised, Avolon's backlog will grow to 36 737s.



GECAS

Aircraft lessor GE Capital Aviation Services (GECAS) has announced a commitment to purchase 75 737 MAX 8s and 25 Next-Generation 737-800s. Once the details have been finalised, the aircraft will be added to the Boeing Orders and Deliveries website as a firm order.

ALAFCO

Kuwaiti aircraft leasing company ALAFCO announced a commitment for 20 737 MAX 8s valued at \$1.9 billion at current list prices. The company ordered six 737-800s in March 2007 with the last delivered in July 2011. "This is the first commitment for the 737 MAX from the Middle East, which is one of the industry's highest growth regions," said President and CEO of Boeing Commercial Airplanes, Ray Conner.

Air Lease Corporation

Air Lease Corporation ordered 60 737 MAX 8s and 15 MAX 9s plus reconfirmation rights on 25 more (unspecified variants) at a list price cost of some \$7.2 billion.

Updated Rolls 787 Engine

ROLLS-ROYCE has revealed it will develop the Trent 1000-TEN, an advanced version of the Trent XWB. According to the manufacturer, TEN stands for Thrust, Efficiency and New technology and claims an improvement of up to 3% in specific fuel consumption compared with the Trent 1000s in service today – powering the Dreamliners operated by launch customer, All Nippon Airways (ANA). The TEN will be certified to 76,000lb of thrust, with the capability to deliver 78,000lb, and will become the Rolls engine offering for the 787-8 and -9 from 2016 onwards. The Trent XWB, from which the -TEN will be derived, is under development for the Airbus A350 XWB. (Photo Rolls-Royce)



"It is a natural follow on from our commitment for 70 plus Next-Gens, which have all been placed," said Steven Udvar-Hazy, the company's chairman and CEO. "Deliveries from this order will start in 2018 and it will represent a step-change improvement that our airline clients need for us to compete in the future. I did make some sceptical comments in March over the variant, but Boeing and engine manufacturer CFM have worked hard to change the concept. It is a different aircraft today."

Chairman and CEO of Air Lease Corporation, Steven Udvar-Hazy and the President and CEO of Boeing Commercial Airplanes, Ray Conner at the signing ceremony for the new aircraft. (Airliner World)

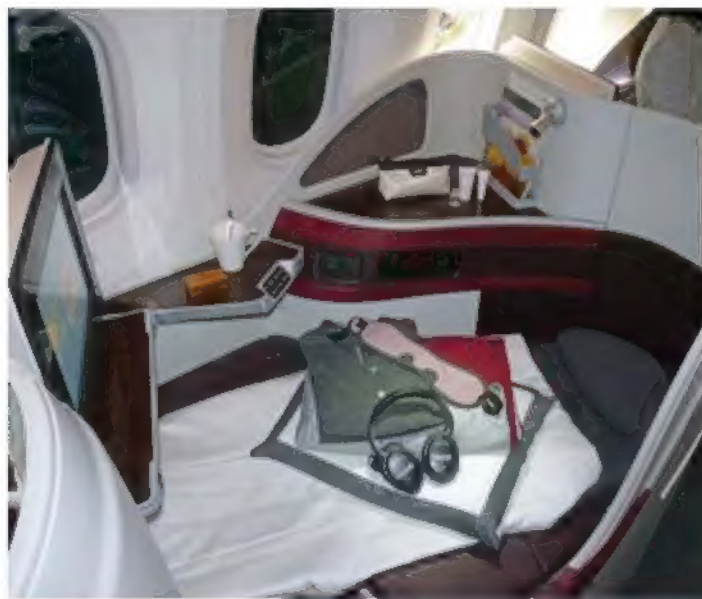


Qatar Dreamliner Debut

THE FIRST Boeing 787 Dreamliner for Qatar Airways took centre stage in the static park and also performed in the daily flying display – despite not being due for delivery until the end of September. The aircraft has a two-class interior with a three, plus three, plus three economy section and a one, plus two, plus one business area (with angled window seats). Speaking to the airline's

CEO Akbar Al Baker onboard the aircraft, *Airliner World* asked him about the initial plans for its introduction. "After a week of promotional trips in the Gulf area, we will start serving London in October," he said. "We are due to get five aircraft this year and will add European destinations such as Frankfurt and then look east to Perth, Australia."

(Photo *Airliner World*)



Longer-Range MAX

THE NEW variant of the Boeing 737 is to have the capability to fly further than originally planned. "We continue to make steady progress toward our development goals," said Beverly Wyse, Vice-President and General Manager of the 737 Program. "We are able to firm up our maximum take-off weight projections, which allow us to confirm that the 737 MAX will fly farther and offer more revenue potential than its predecessor and future competitor." "A lower operating empty weight, but higher maximum take-off weight, allows customers to increase payload

or the range of the airplane beyond what the main competition can offer," added Joe Ozimek, Vice President of 737 MAX product marketing.

Comparative* maximum take off weights and range limits:

Variant	MTOW (lb)	Range (nm)	Two-class seating
737-700	154,400	3,400	126
737 MAX 7	159,400	3,800	126
737-800	174,200	3,080	162
737 MAX 8	181,200	3,620	162
737-900ER	187,700	3,055	180
737 MAX 9	194,700	3,595	180

New Flight Deck Technologies

ROCKWELL COLLINS has unveiled flight deck technologies jointly developed with Boeing for retrofit on 757s and 767s, said to be "inspired by flight deck improvements offered on the Boeing 787." The new features include a comprehensive electronic flight instrument system (EFIS) and engine indicating crew alerting advanced flight display

system (EICAS) as well as advanced NextGen communication and surveillance equipment. Supplemental type certification is expected in the second quarter of 2014. Rockwell Collins will also offer an integrated head-up guidance unit with future Synthetic Vision Systems capability.

Demand for Airline Pilots

Boeing believes the world will face an unprecedented demand for airline pilots and maintenance technicians over the next 20 years as global economies expand and airlines take delivery of tens of thousands of new commercial aircraft.

The company has released its 2012 Pilot and Technician Outlook which indicates that by 2031 the world will require: 460,000 new commercial airline pilots 601,000 new commercial airline maintenance technicians

"In many regions of the world, our customers are facing challenges in recruiting personnel due to pilot and technician shortages," said Sherry Carbary, Vice President, Boeing Flight

Services. "We are committed to developing innovative solutions that address this critical need." Projected demand by region:

Asia Pacific – 185,600 pilots and 243,500 technicians

Europe – 100,900 pilots and 129,700 technicians

North America – 69,000 pilots and 92,500 technicians

Middle East – 36,100 pilots and 53,700 technicians

Latin America – 42,000 pilots and 47,300 technicians

Africa – 14,500 pilots and 16,200 technicians

Russia and CIS – 11,900 pilots and 18,100 technicians

Production Rate Increases

Boeing's Commercial Airplanes' President and CEO Ray Conner was very positive about the company's goals and ambitions saying that it is hitting its stride on performance and making significant progress on new aircraft programmes. "We're seeing levels of demonstrated performance that give us confidence in our ability to increase production rates and deliver on our promises to customers," he said. "We're also working closely with our suppliers to make sure they're able to increase capacity and make the necessary investments to increase production with us."

The company has a backlog of more than 4,000 aircraft, equating to nearly seven years of production at current rates.

However, by the first half of 2014, it plans to produce 30% more than today. In addition, the company's Current Market Outlook forecasts a market for 34,000 aircraft worth \$4.5 trillion over the next 20 years.

"We have time to make the right decisions when it comes to improving the 777 family thanks to our strong market position," Conner added. "Meanwhile, the 787-10X will extend and complement the 787 family and be the best in its class. We are absolutely committed to both of these airplanes."

This Korean Air Boeing 737-900ER was present in the static park. Already in service, it has the Sky interior with higher roof space and larger overhead bins. (*Airliner World*)



Orders For ATR

IN A press briefing at the ATR Chalet – next to a specially painted ATR 72-600 with 'I am ATR – the greenest regional aircraft in the world' – CEO Filippo Bagnato was very upbeat about the

immediate future for the aircraft type. There is a healthy order book and orders continue to be placed. Announcing a batch of new orders, he said: "I have been authorised by the management of Aer Arann to tell you that we have reached an agreement for eight aircraft. We are still finalising the fine detail," but revealed deliveries would start in 2013.

He continued by announcing that two Asian airlines would be adding to their turboprop fleets. Taiwan-based TransAsia Airways placed a firm order for eight ATR 72-600s, plus one option, in a deal worth over \$210 million, while Vientiane-based Lao Airlines purchased two more in an order valued at \$47 million (based on list prices). The 72-seat aircraft will replace earlier ATR 72-500

models with both airlines. Deliveries are scheduled from 2014-2017 (TransAsia) and late 2012-2013 (Lao). Meanwhile, Air Lease Corporation has signed a contract for two ATR 72-600s – conversion of two of ten options from an earlier order – and Nordic Aviation Capital added to its portfolio of 12 ATR 72-600s and -500s by adding a single -600. (Photo Key – Alan Warnes)



PW1400G Delivery in 2015

DELIVERY OF the Pratt & Whitney (P&W) PW1400G engine – intended for use on Irkut's MC-21 regional airliner – has been pushed back three months to the first quarter of 2015.

"The delay was due to finalising all of the requirements as well as the contract," P&W's Vice President Next-Generation product family, Bob Saia, said at a press briefing. "We've been working with

Irkut since 2009. The company wanted to make the first flight at the end of 2014 but it's like baking a cake, it takes a certain amount of time for the oven to allow the cake to cook. We have just completed our contract with Irkut for elements that affect power supply and hydraulic supply and we will be in position to deliver the engines for the initial flight in the first quarter of 2015," he said.



Taking up a large area in the static park was this Douglas DC-10-40, N974VV (c/n 46974), of Omega Air. The ex-Japan Airlines aircraft has been converted into an airborne refueller for the military. (Key – Alan Warnes)

Not Just Airliners



The Finmeccanica area contained a large number of helicopters of various sizes – as well as an Alenia C-27J Spartan transport. (Airliner World)

Engine Alliance

IN A breakfast meeting with Mary Ellen Jones, President of Engine Alliance (EA) recent enhancements to the GP7200 engine – fitted to 34 of the Airbus A380s in service – were revealed. Since its introduction in December 2007, EA has improved its performance by 1.3% and reduced its weight by over 200lb (90kg). The most recent modi-

fications include better sealing of the high pressure turbine and an improved blade. "We now have over one million flight hours on aircraft in service," she said. "The highest being [as of July 11] 14,399 hours. We have 600 more on order – and 145 operating in the fleet already. A total of 11 more aircraft will be delivered this year, plus 17 in 2013."

Star Visitor

Although not participating in the show, this Antonov An-12BP, 11309 (c/n 00347510), of Gromov Air/Trkut Avia was the 'star' visitor for many enthusiasts. It visited twice and carried the Yakovlev Yak-130 to and from Russia. (Richard Vandervord)



CSeries Order Possible

THE CEO of low-cost carrier AirAsia, Tony Fernandes, confirmed he is in preliminary talks to buy up to 100 Bombardier CSeries CS300s.

"We are taking this very seriously. It is an impressive aircraft and we have a good feeling about it," he said. "The advantage is that the CSeries can get into a lot of smaller airports to which we currently do not have access. And there is the price, and this looks like it could be a very affordable aircraft. We are currently a very big Airbus customer

and so this is a very big decision." He added that the aircraft would supplement its fleet of Airbus A320s and add to the 200 A320neos that the carrier has ordered.

"We live and die by cost and that will be crucial, but we also hope that Pratt & Whitney, who are supplying the engines, will be as enthusiastic as Bombardier about this aircraft," he added. The airline would like a 160-seater aircraft, but this is more than the stated 150-seat maximum at present.

United Aircraft Corporation

RUSSIAN JOINT Stock Company, United Aircraft Corporation (UAC) has received more than 300 commercial aircraft orders (Sukhoi SSJ100, Antonov An-148 and Irkut MC-21), over 270 combat aircraft orders and over 100 transport aircraft orders in 2012. "The revenue share will see the military share dropping from over 80% to around 58% over the next two years, with commercial being the largest growth area," said President and Chairman of its Executive Board, Mikhail Pogosyan. "We've also seen a change with our services business growing to provide 16% of revenue against 84% from manufacturing." He added that in 2012, 20 more Superjets will be delivered, plus work is continuing on a new Ilyushin Il-76, and the company is still looking at resuming An-124 production. "We are also working with the Ukrainians on the An-70," he continued.

Certification For Twin Otter Series 400

VIKING AIR of Victoria, British Columbia, Canada has received type certification for the DHC-6 Series 400 Twin Otter, from both the FAA and the Russian Interstate Aviation Committee Aviation Register (IACAR).

The US type certification will pave the way for the delivery of three aircraft ordered by the US Army Golden Knights

Parachute Team – the first of which has recently arrived at the Viking Factory Endorsed Service Centre in Murrieta, California for incorporation of customised military modifications.

The approvals come just weeks before the scheduled delivery of the first of two aircraft for Russian launch customer Vityaz Avia Corporation of Moscow.

China Express Orders six CRJ900s

WITH AN aircraft in its colours in the static park at the show, China Express Airlines has converted a previously announced conditional order for six Bombardier CRJ900 NextGen regional jets to a firm order, plus five options.

The Guiyang-based carrier currently operates five CRJ200s and will be the first to use the larger variant in China. "We are working closely with local airlines, suppliers and stakeholders to assist in fleet and infrastructure expansion to

support the development of China's fleet as it grows to become the world's second largest market for new aircraft deliveries," said Bombardier's Vice President-sales for China and North Asia, Andy Solem. (Photo Airliner World)



in brief

Airbus hosted a series of forums and workshops to provide the opportunity for job seekers to discuss their possible future career opportunities with Airbus engineers, human resources and business experts. The manufacturer plans to recruit over 4,000 people in 2012. Workshop participants had the opportunity to learn more about the A320neo and the A350 XWB.

The holding company for US carriers **SkyWest Airlines and ExpressJet Airlines** – the two largest combined regional airline operators – has reached an agreement in principle for 100 Mitsubishi Regional Jets (MRJ). Mitsubishi Aircraft and SkyWest intend to convert this into a definitive agreement in the coming weeks. Deliveries would start in 2017, with the order being fulfilled before the end of 2020.

General Electric says it will improve parts of its CF6-80E1 engine to provide up to a 1% improvement in fuel efficiency for Airbus's enhanced A330s with a 240 tonne take off weight capability and an extended range. Initial deliveries of the newly enhanced CF6-80E1 are targeted for 2015.

The Irkut Corporation of Russia – part of United Aircraft Corporation – has agreed to a five year master service agreement to provide Jeppesen Electronic Flight Bags, flight planning, charting, navigation data and mobile delivery solutions for the development of the MC-21 regional jet, which is expected for entry into service in 2017. (Photo Airliner World)



Boeing plans to open an extra production line for the 737 at its Renton, Washington factory, adding to the two in operation. It will be introduced when the first units of the new MAX arrive for final assembly.

Maintenance, repair and overhaul (MRO) provider British Airways Engineering, has been selected to provide its global line maintenance and engineering services to Boeing's GoldCare programme. The company now joins a choice group of suppliers that Boeing can select to support their GoldCare fleet maintenance requirements for the 787 Dreamliner and Next-Generation 737.

China's **Hebei Airlines** has ordered five Embraer 190s in a deal valued at \$226 million at list prices. The aircraft will be delivered by the end of 2013 and will join two more that have been in service with the Shijiazhuang-based carrier since January.

Airbus News



The prototype Airbus A320 fitted with wingtip 'Sharklets' paid a short visit to the Show. (Airliner World)

AIRBUS ENJOYED a successful Farnborough International Air Show 2012, securing deals worth an estimated \$16.9 billion. The European manufacturer landed firm orders for 54 aircraft while Memorandums of Understanding (MoU) were signed for a further 61 examples. The best-selling A320 narrowbody family continued to lead the way for Airbus with 86 commitments for the single-aisle jet worth \$8.4 billion. The next-generation neo model, which is only just entering production, attracted 29 new commitments from Avolon, Middle East Airlines and Arkia Israel Airlines. However, unlike the 2011 Paris Air Show, almost two thirds of the total orders for the A320 were for the 'current engine option' family. The largest commitment

was an MoU from China Aircraft Leasing Company (CALC) for 36 examples, while Russian carrier UTair placed a firm order for 20 A321s.

Airbus also used the show to introduce a higher gross weight version of its A330 wide-body jet. On the -300 series, the rise from 235 to 240 tonnes effectively increases the type's range to 5,950nm (11,020km), allowing it to operate between London and Tokyo or Beijing and San Francisco. The higher gross weight jet, which is expected to enter service in mid-2015, received a timely boost from US lessor and financier, CIT Group, which became the launch customer for the type with a \$2.3 billion order for ten examples. Synergy Aerospace also firmed up its commit-

ment for nine aircraft, including six -200s and three freighters.

Surprisingly, there were no orders placed for the A380 Superjumbo, despite the manufacturer displaying a brand new example for Malaysian Airlines for the first three days of the event. However, the star of the show for the European manufacturer was its new A350 XWB, with Hong Kong-based Cathay Pacific Airways placing a \$4.2 billion order for ten Rolls-Royce Trent XWB-powered A350-1000s, while a further 16 of its previously ordered -900 series aircraft have also been converted to the larger, 350-seat model.

Airbus CEO Fabrice Brégier reflected on a successful show, commenting: "The quality of orders at Farnborough has

AIRBUS - Farnborough 2012 Orders

Customer	Type	Number
Arkia Israel Airlines	A321neo	4
Avolon	A320neo	15*
Cathay Pacific	A350-1000	10
China Aircraft Leasing Company	A320	36*
CIT Aerospace	A330	10
Druk Air	A319	1
Middle East Airlines	A320neo	10*
Synergy Aerospace	A330	9
UTair	A321	20

* Memorandum of Understanding

been high, with significant endorsement from leading customers of our strategy to continuously innovate and improve our products." He added: "With the recent announcement last week to build an A320 production line in America, coupled with the start of production for the A320neo in Toulouse, Airbus is cementing its leading global position."

Successful Show For CFM

BEING THE sole provider of engines for the new Boeing 737 MAX, the large number of orders and commitments for the variant meant it was a successful Farnborough for CFM International with orders worth \$12.6 billion and commitments for 922 new engines.

United Airlines' firm order for 100 MAX and 50 additional CFM56-7B-powered NG 737-900ERs is worth approximately \$5 billion at list prices, while the GECAS commitments for 75 LEAP-1B-powered aircraft, in addition to 25 CFM56-7B-powered NG 737s, (\$2.4 billion).

This is closely followed by the 60 737 MAX 8s and 15 MAX 9s of the Air Lease Corporation (\$1.9 billion), ALFACO's commitment to purchase 20 MAXs (\$500 million) and Avolon's 25 - a mixture of MAX and NG versions (\$585 million). (CFM's LEAP 1B engine will be fitted to the MAX

while the NG 737 carries CFM56-7Bs.) Meanwhile, Brazilian low-cost carrier GOL Linhas Aéreas Inteligentes, the Apollo Aviation Group and Oman Air are the latest CFM customers to become part of the TRUEngine programme, which provides customer support.

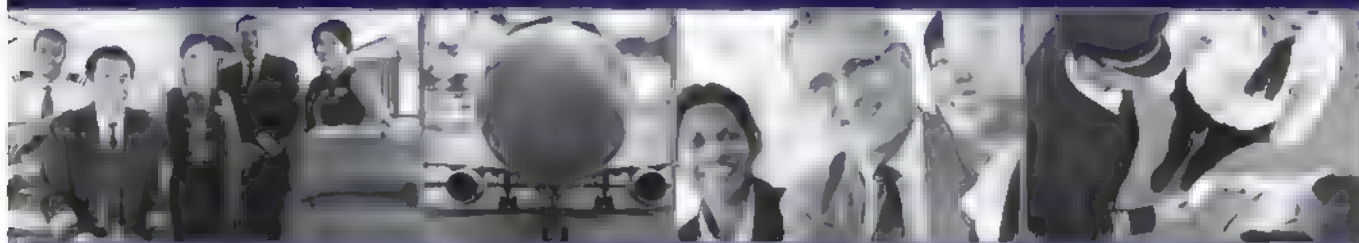


Sukhoi brought an Aeroflot SuperJet 100, RA-89008 (c/n 95016) to the show - although no new orders were made for the type. The aircraft was actually delivered to Aeroflot earlier this year. (Key - Alan Warnes)

Superjet SSJ100

New Chinese Turboprop

LOOKING LIKE a cross between an ATR 72-600 and a Bombardier Dash 8-Q400, AVIC Aircraft of China has released details of its new 76-seat MA700 turboprop. The company claims the aircraft will consume 15 to 20% less fuel and have 10% lower operating costs than its current MA600. AVIC sees a worldwide market for some 800 MA700s in the future.



non international recruitment service supports its clients in sourcing personnel for both their temporary and permanent vacancies.

Our reputation for quality service and rapid response times has been built over 30 years of industry knowledge, contacts and experience.



ZENON

Tel: +44 (0)1483 332000 • Email: recruitment@zenon.aero • www.zenon.aero



AVIATION BROKING

- Average price ACMI Marg Firm and Term
- Weighted Avg → Dump price
- Cost of other ACMI and Term
- Firm year Specific Tax ratio
- Specific firm specific corporate tax rate variable
↳ Firms specific characteristics

- Human Development
- Marketing Strategy
- Marketing
- Organizational Operations Activities

www.zelaaviation.com

To [redacted] 777
[redacted]
[redacted]
[redacted]
P. Joy [redacted]

BA Returns to Props

BA Cityflyer has wet-leased Saab 2000, G-CDEB (c/n 036), from Eastern Airways. The turboprop, which has been repainted in full livery, is being used to operate the new London City to Isle of Man service.



Bratislava Opens Extension

Bratislava Airport has opened a new extension to its terminal building, which will allow the airport to handle larger aircraft and increase its capacity. The new extension is a modern, single-story building with a glass facade, located adjacent to the existing terminal. It will be used for check-in, baggage claim, and passenger waiting areas. The airport authorities expect the extension to significantly improve the passenger experience and increase the airport's competitiveness.



Cuts at Air France

AIR FRANCE has announced further details of a restructuring plan that will reduce staff numbers by 5,100 by the end of 2013. The carrier is optimistic that approval of a new labour agreement by the airline's unions, along with natural wastage and a voluntary exit scheme, will avoid the need for compulsory redundancies.

The airline, part of the Skyteam alliance, currently employs almost 50,000 personnel but will not replace staff who depart and is expected to incentivise part-time working as it pushes to improve its economic efficiency by 20%.

The measures are part of the airline's contribution to Transform 2015, parent Air France-KLM group's recovery plan to reduce its €6.5 billion debt by €2 billion over the next three years.

The carrier is expected to launch a significant investment programme worth hundreds of millions of euros, introducing a new cabin and repositioning its long-haul operations. Air France will also group together its three subsidiaries, Brit Air, Regional and Airlinair, within a new regional hub, though it is believed to be considering putting loss-making CityJet up for sale.

Several former British Midland International-bmi aircraft have begun appearing in the livery of new parent carrier British Airways, including Airbus A319-131, G-DDBC (c/n 2188), which now sports the special 'Dove' colour scheme. (Nik French)

BMI Dove



in brief

Austrian Airlines has confirmed plans to phase out its last seven Boeing 737-800s by March 2013. The twinjets by Airbus A320s, the first two of which, OE-LBW (c/n 1678) and OE-LBX (c/n 1735), were delivered to the airline's Vienna base on July 11.

British Airways Engineering has been selected to provide MRO services to Boeing's GoldCare programme for both the 787 and 737 Next-Generation models.

LOT Polish Airlines is to sell Boeing 767-35D, SP-LPC (c/n 28656). The aircraft was originally operated on lease from Air Castle until it was involved in a gear-up landing at Warsaw in November 2011. The carrier elected not to repair the aircraft and will sell the airframe in its current condition.

Irish low-cost carrier **Ryanair** has announced plans to open a base at Maastricht, its first in the Netherlands, from December 1. The airline will use a single, based aircraft to operate 14 routes including Alicante, Dublin, Faro, Tenerife, London/Stansted and Malaga.

London/Oxford Airport introduced a new radar system in early July. The primary and secondary radar, manufactured by Thales, will enable the airport to handle overflights and IFR traffic more efficiently. (Photo London/Oxford Airport)



Lufthansa Cargo has reported a decline in air freight traffic of 9.2% for the first half of this year compared to the same period in 2011; the average load factors was 68.4%.

ExecuJet has launched the first free travel service for pets in partnership with Cambridge Airport – having won approval from the Defra for the UK's Pet Travel Scheme. This enables domestic cats and dogs to travel internationally without quarantine and overseas vet inspection.

OLT Express Germany has completed the acquisition of Stuttgart-based carrier Contact Air and expects to receive government approval by September.

Figures released by **Highland and Islands Airports** reveal that passenger numbers increased at Scotland's regional airports in June by 0.7% against the same period last year, despite unseasonable weather conditions and a difficult financial climate.

Gatwick Eyes Expansion

LONDON'S GATWICK Airport has unveiled a new master plan outlining its development up to 2020 and beyond. The facility, which is the busiest single-runway airport in the world, currently handles around 34 million passengers a year but is expecting this figure to increase by 11 million by 2030.

The airport's CEO, Stewart Wingate, said: "Gatwick plays an important role in supporting growth in the local and wider UK economy. We are responsible for providing jobs to 21,000 people today and enabling the tourism industry to flourish and businesses to prosper.

Our finalised master plan sets out how we will achieve sustainable growth on our single runway in order that we can continue to support economic recovery and growth and open up further routes to emerging economies."

The projected growth has again prompted speculation that the facility requires a second runway. Wingate added: "We remain committed to honouring the 2019 agreement which prohibits the building of any second runway before that time. At the same time, and like any other business, our plans need to cater for all eventualities. We need to anticipate that,

In the long term, a second runway at Gatwick may be needed. This means we will continue to work in partnership with our local authorities to safeguard land for future expansion because we believe it to be sensible business practice and it supports current government policy." Since being acquired by Global Infrastructure Partners from BAA two-and-a-half years ago, Gatwick has benefited from £1.2 billion of investment, including a £750 million upgrade of its two terminal buildings.

The airport also played host to an Emirates Airbus A380 Superjumbo for

the first time on July 6 to mark 25 years of services between the UK and the carrier's Dubai, UAE base.

"Since 1987, Gatwick has been at the heart of our UK operation and we are proud to see our A380 touch down here today," said Laurie Berryman, Emirates Vice President UK. "When this special anniversary service departed for Dubai this afternoon, it did so with over 500 passengers on board. Given the popularity of the aircraft with passengers from the south-east, it is our hope that Gatwick will join our A380 network in the future." (Photo Gatwick Airport)



British Firms Push for an Alternative

FOUR DIFFERENT fuels have been selected to progress to the next stage of a scientific programme to evaluate sustainable alternatives for aviation. The scheme, run in partnership with Rolls-Royce and British Airways, is intended to identify practical alternatives to kerosene (Jet A-1). The four fuels – supplied by Applied Research Associates, Byogy

Renewable, Algaeon Inc in partnership with Swift Enterprises and Shell Research in partnership with Virent Energy Systems – will now be evaluated on their compatibility with aircraft fuel systems, impact on engine operability and emissions.

Rolls-Royce Environment Strategy Manager Jonathan Hart said: "This scientific testing programme will sig-

nificantly advance our understanding of the performance of these novel fuels, and support the wider use of sustainable and low carbon fuel within the aviation industry."

British Airways' Head of Environment, Jonathon Counsell, added: "Developing alternative, sustainable aviation fuel is an important part of a range of measures designed to help us achieve our

target of reducing net carbon emissions by 50% by 2050. We are proud that, together with Rolls-Royce, we are helping lead the implementation of biofuels into our industry."

The rig-testing phase is being carried out at the Rolls-Royce University Technology Centre facilities at the University of Sheffield and at its Derby testing facilities.



Spain's low-cost carrier Vueling has applied special markings to Airbus A320-214 EC-JZQ (c/n 992) to commemorate carrying 50 million passengers. The design features a collage of photographs shaped to form the word 'Thanks'.

Many Thanks

European Growth Slows

FIGURES RELEASED by Airports Council International (ACI) reveal a slowdown in passenger traffic across Europe, while air cargo fell for the eleventh consecutive month. The association recently warned of decreasing traffic levels around the EU as operators continue to struggle with the effects of the Eurozone crisis. The average passenger traffic rose by just 1% during May compared with the same period in 2011.



New Corsair Livery

Carlisle Development on Hold

PLANS TO introduce scheduled air services at Carlisle Airport in Cumbria, UK, have suffered another setback. The Stobart Group, which part-owns the facility, had submitted plans to build a 394,000sq ft (36,600m²) freight distribution centre and to resurface the runway to accommodate passenger and cargo flights. The development was set for discussion by Carlisle city councillors in early June – but it was withdrawn at the request of the Stobart Group following claims from council-commissioned aviation consultant Alan Stratford Associates (ASA) that scheduled services from the facility will never be viable. These findings appear to contradict a letter of intent from Aer Arann outlining plans to launch twice-daily services from Carlisle to another Stobart-owned airport, London/Southend, and a daily flight to Dublin, using a based 48-seat ATR 42. The ASA report suggests that a connec-

tion to London would attract less than 30,000 passengers per year – significantly fewer than Stobart's estimate of 35,000 rising to 70,000 within 12 years. "We see no prospects for any other routes from Carlisle to other UK or European destinations," the report said, adding that the lack of ground radar and an instrument landing system could delay flights or force cancellations and would put airlines off using the airport. ASA also noted that the planned redevelopment would cost up to £24.3 million, almost £4 million more than Stobart's estimate. The group has asked the council to postpone its review while a rebuttal is prepared. The challenge is the latest in a string of problems that have blighted the project – the plan was originally approved in 2008 only to be dropped following a public enquiry, while a second application was turned down by the Court of Appeal in 2009.

easyJet Marks Maltese Success

BRITISH LOW-COST carrier easyJet recently celebrated completion of the 50th heavy maintenance check by SR Technics in Malta. The MRO has also completed eight end-of-life checks for the airline with a further four expected by the end of this year. André Wais, president of SR Technics, said: "This is a proud moment for us. Less than two years ago we set up operations in Malta with a new facil-

ity and team. Today, through this high-performing team's dedication to achieving best-in-class quality and reliability, we have delivered all 50 aircraft on time, a huge achievement. The team has also been able to halve the turnaround time for heavy maintenance checks from 14 to ten days, bringing about increased operational efficiency for each aircraft for easyJet. It's results like these that show why we chose Malta to be our centre of excellence for narrowbody aircraft." Warwick Brady, easyJet's Chief Operations Officer, added: "This is a wonderful milestone we are celebrating with SR Technics. The redelivery of the 50th aircraft is testament to the hard work and dedication of the skilled workforce in Malta."

The ceremony to mark redelivery of the 50th aircraft, an Airbus A319, was held at SR Technics' two-bay hangar at Salfi Aviation Park. (Photo: easyJet)



Blast from the Past



Lufthansa Shifts Capacity

GERMAN NATIONAL carrier Lufthansa has confirmed that it has been forced to move its Cape Town, South Africa, service to Munich from Frankfurt because of the latter's recently-imposed ban on night flights (see *Airliner World*, December 2011). The ban, which applies from 11pm, offers no leeway for delayed flights and has resulted in 10,000 Lufthansa passengers being stranded overnight in Frankfurt since it was introduced. The carrier has already reduced the number of evening departures from the city as part of its current summer schedule and will reduce them further this coming winter.

Pilot Training Just Got Better.

The integration of two of the largest pilot training organisations to form CAE Oxford Aviation Academy provides aspiring pilots with a unique opportunity

Visit one of our Airline Pilot Career Days to discuss your path to becoming an airline pilot.



Ruslan Set for Return?

MIKHAIL POGOSYAN, President of Russia's United Aircraft Corporation (UAC), has suggested that the company intends to re-launch production of the Antonov An-124 Ruslan heavy-lift transporter. "We believe the current market

requires at least 75 An-124s to be modernised and repaired by 2030. The production forecast for 2012 to 2030 is 40-50 jets," Pogosyan said, noting that "35-40% of these are owned by the Russian Ministry of Defence, while the Antonov Design

Bureau, Polet Airlines and Volga-Dnepr are the largest civilian operators of the type.

A final decision on the resumption of manufacturing is due soon, with assembly expected to be completed by the Ulyanovsk aviation plant.

Production of the freighter ceased in 2004, though Volga-Dnepr, the Emergencies Ministry and the Russian Air Force have all expressed an interest in acquiring new examples (see *Airliner World*, June 2012). (Photo: ion Jochems)

Aeroflot Plans Consolidation

AEROFLOT HAS announced plans to create a regional subsidiary to operate in Russia's Far East. The new entity, which is expected to take between 12 and 18 months to establish, will be formed through the merger of wholly-owned Vladivostok Avia and SAT Airlines. Aeroflot CEO Vitaly Saveliev confirmed that the carrier will be a joint venture between the regional governments and the Russian national carrier, adding that it will acquire up to 15 new-build aircraft though it has not yet selected a type. Aeroflot, which assumed control of five state-owned airlines late last year, is also reportedly planning to acquire Krasnodar-based Kuban Airlines.

First 767 for UTair

UTAIR TOOK delivery of the first of an eventual eight Boeing 767-200ER wide-body jets on July 11. The aircraft, which is configured with 170 seats in a two-class layout, will be used on routes from Moscow to western Siberia, while later examples will be used to launch

new services to the Russian Far East. The first example, VP-BAG (c/n 30435), was previously operated by US carrier United Airlines and is one of three expected to join UTair this year; the remaining examples are due to follow in 2013.

Armavia Snubs Superjet

ARMENIAN NATIONAL carrier Armavia has confirmed it will not be acquiring the second Sukhoi Superjet 100 which was expected to join the operator imminently. The airline, which was launch customer for the type, received its first example in April 2011.

A spokesman said: "The Armavia management attending the Farnborough International Airshow met representa-

tives of the Airbus and Boeing companies on the show's first day," adding that the operator was intending to purchase aircraft from both manufacturers and had no intention of acquiring any further Sukhoi-built airliners.

The twinjet has been plagued by reliability issues since entering service while one of the prototypes was lost in a fatal accident in Indonesia on May 9.

Transaero Firms up Orders

RUSSIA'S SECOND-largest carrier, Transaero, has signed a purchase agreement with Airbus for four A380 Superjumbos. The deal, valued at \$1.7 billion based on list prices, follows an accord signed in October last year and will make the airline the first operator of the type in the region. The aircraft is expected to accommodate up to 700 passengers in a three-class layout and will be used on long-range, high-density routes from Moscow.

"Our airline, with its strong innovation culture, will be the first in Russia to fly the A380, the world's largest passenger aircraft," remarked Transaero CEO Olga Pleshakova. "I am sure that the operation of the A380 will stimulate the development of Russia's aviation sector, in particular its ground infrastructure. In addition, our passengers will benefit from the completely new air travel experience the A380 offers with its spacious, comfortable cabin for their long-haul flights."

The carrier has also firmed-up a \$212 million order for six Sukhoi Superjet 100s, with options for a further ten. Mikhail Pogosyan, President of the United Aircraft Corporation, commented: "Transaero is among the 50 largest carriers in the world and ranks in the top five safest European airlines. Its selection marks the recognition of our product's high quality and superior operating ability. I am convinced the Superjet will become an efficient tool that will be used by the airline in implementing its regional services development plan."

The first, 90-seat SSJ100 is due for delivery in 2015.

Russian Visitor

Pictured at London/Heathrow on July 10 was Russian Government-operated Ilyushin Il-62M, RA-86572 (c/n 3154624). The jet stayed in the UK for several days before departing for Washington DC. (Nik French)



Turkish Delight



FL Technics Lands Ural Deal

URAL AIRLINES has reached an agreement with FL Technics to provide line maintenance for its fleet of Airbus A320s and A321s. Under the new deal, the Lithuanian MRO will carry out daily and weekly checks at its Krasnodar station as well as providing on-call support for the carrier's aircraft.

"The agreement with FL Technics plays an important role for the development

of [our] air traffic from Krasnodar Airport," said Ural Airlines Quality Director Alexey Fomin. "Collaboration with an EASA-certified European line maintenance partner will make it possible to maintain a high level of airworthiness of the aircraft that perform flights from this airport. This is particularly important during the intensive summer period."

FL Technics CEO Jonas Butautis added "Russia is certainly one of the regions with the most potential for MRO organisations. With many years of experience working with local companies, we have exceptional understanding of the market players' needs and requirements. The co-operation with Ural proves the trust and reliance of our Russian partners in the services we provide."

Russian Charters

TOUR OPERATOR TUI Russia, part of the German-based TUI Group, has officially launched charter flights from Moscow/Domodedovo to destinations

around the Mediterranean. The services are flown by partner airline Kolavia under the guise of MetroJet – TUI Russia has signed a three-year agree-

ment with the carrier which has spent \$1 million on rebranding including new crew uniforms and a hybrid livery on its Airbus A321s. (Photo Karl Nixon)



Belarusian Movie Star

This Belarusian Mil Mi-26T, EW 260TF (c/n 34001212465), was an unusual visitor to Budaors, Hungary, in late June. The helicopter received a temporary camouflage paint scheme ahead of filming for the new movie *Die Hard 5*. (Tamas Mar)



Record-Breaking Domodedovo

MOSCOW'S DOMODEDOVO Airport handled a record 2.75 million passengers during June 2012, an increase of more than 6.2% over the same period last year. The facility cemented its position as the city's busiest hub when it served over 114,500 travellers on June 30 alone, surpassing its own record for the number of passengers handled in a single day by over 5,000. The June performance is the highlight of a very busy year for the airport, which has seen an increase in domestic traffic of 12.8% for the first half of 2012 compared with 2011, while international traffic rose by 8.2% in the same period.

in brief

The **Chkalov Tashkent Aircraft Production Corporation (TAPC)** delivered its final Ilyushin Il-114 turboprop to Uzbekistan Airways in late June, bringing to an end 70 years of aircraft production. The plant, which attributes the closure to financial difficulties and a downturn in demand, will now be used to make car components, household products, building structures and farm machinery.

Russian operator **KrasAvia** has acquired three Let 410 Turbolets for use on its regional network. The Krasnoyarsk-based carrier was expected to introduce the type into scheduled service in early August.

Aeroflot has taken delivery of a Thales-built Sukhoi Superjet 100 full flight simulator. Installation of the system, which was supplied by Sukhoi as part of the flag carrier's 30-aircraft order, is due for completion in late September.

Kazakh carrier **Air Astana** received the award for 'Best Airline in Central Asia' at the World Airline Awards held during the 2012 Farnborough International Airshow. The airline, a joint venture between Kazakhstan's national wealth fund Samruk Kazyna and BAE Systems, beat off competition from Indigo Airlines and Jet Airways, which ranked second and third respectively. (Photo Air Astana)



Kuban Airlines has confirmed plans to retire its remaining Yakovlev Yak-42s this autumn as part of an ongoing fleet renewal programme. The carrier, which also operates Boeing 737s, is replacing the ageing jets with Western-built aircraft.

Skyworld Aviation has completed the sale of two former Viking Hellas Airlines Airbus A320s to Ukrainian operator **Aviatrans**. The first of the two IAE V2500-powered jets, EI-EEY (c/n 393), was delivered in late May with EI-EEY (c/n 414) following in early June.

Moscow/Vnukovo Airport is reportedly considering a £140 million loan to complete the construction of its new terminal building – which, on its expected completion later this year, will increase capacity to 20 million passengers per year.

Aviation Capital Services, the specialised leasing arm of the Russian Technologies State Corporation, placed an order with IRKUT for 35 MC-21 narrow-body jets in late June. The deal is valued at \$2.32 billion based on list prices, with deliveries expected to commence in 2022.

SAA Reveals Special Colours



JUST IN time for the summer Olympic Games, South African Airways (SAA) revealed a fully-branded Airbus A340-300 that flew 'Team South Africa' and officials to London. The design was

designed by Adri le Roux, a first-year design student at Stellenbosch University. "As South Africa's national airline, we are proud and happy to be able to support our athletes in this manner,"

said SAA's CEO, Siza Mzimela. "The carrier had announced a competition challenging South Africans aged between 13 and 21 to 'design an iconic logo which captures the spirit of South

Africa'. The judging criteria included simplicity and longevity of the design and how it would complement SAA's internationally recognised branding." (Photo Dave Glendinning)

More Growth in Dubai

PASSENGER NUMBERS at Dubai International Airport increased 10.4% year-on-year in May. Passenger traffic reached 4,388,614 compared with 3,976,633 in the same month in 2011. Strong performance in the first five months of 2012 has propelled the year-to-date traffic to 23,216,893, an increase of 13.2% over 2011.

Flights to countries of the Arab Gulf Co-operation Council (AGCC) recorded the largest increase in total passenger numbers in May (up 105,052), followed by Africa (up 61,306), Western Europe (up 57,602) and the Indian subcontinent (up 55,330).

Aircraft movements for the month totalled 28,304, an increase of 5%, with a yearly increase of 7.2%. The airport also handled 187,638 tonnes of air freight in May, a drop of 0.1% – but year-to-date freight volume has reached 891,464 tonnes, up 1.4%.

Qatar Airways is Best Airline In The World



Qatar Airways is the first commercial carrier to have the new wingtip 'Sharklets' fitted on one of its aircraft – Airbus A320-232(WL), F-WWBG/A7 AHV (c/n 5182). Ryan Parker

AT THE annual Skytrax World Airline Awards, Qatar Airways was presented with the 'World's Best Airline' award for the second year running. It was also named 'Best Airline in the Middle East' (for the seventh consecutive year) and took the award for 'Best Airline Staff Service in the Middle East'.

The awards, conducted by the Skytrax global aviation research organisation, polled over 18 million business and leisure air travellers from more than 100 countries. Qatar Airways' CEO Akbar Al Baker, said "I'm extremely proud of the adulation given once again by the very people who fly – the travelling public – for their sup-

port and faith in us." Meanwhile, the carrier has ordered a new head-up display (HUD) to be installed on its entire new fleet of Airbus A350 XWBs and A380s. The Thales dual HUD system gives pilots much greater visibility throughout all phases of flight, especially for take off and landing.

Air Seychelles Adds A330-200



AIR SEYCHELLES has acquired its first Airbus A330-200. The aircraft made its debut on a scheduled flight from Abu Dhabi, arriving at Seychelles International Airport on July 5. After some minor modification work it then returned to service five days later.

Formerly operated by Indian carrier Jet Airways, it has been named *Aldabra* in honour of Aldabra Island, a UNESCO World Heritage site and one of the Seychelles' most remote spots. (Photo Richard Maslen)



MEA Joins SkyTeam

MIDDLE EAST Airlines (MEA) has become the latest member of the SkyTeam alliance – the second airline from the Middle East after Saudia, which joined in May (see August issue).

MEA's acceptance process has taken several years. Although formally accepted as a future member in early 2011, the airline had been linked to possible associate membership as long ago as 2003. However, between 2004 and 2011, progress stalled until the final acceptance process, sponsored by Air France, began last year.

Kotaka International Wins Marketing Award

KOTAKA INTERNATIONAL Airport, Accra, is the winner of the Routes Africa Airport Marketing Awards for 2012. The airport has achieved a huge increase in passenger traffic (from 1.4 million in 2010 to 1.8 million in 2011) and works closely with its stakeholders – including its government and tourism authority.

African easyJet?

A NEW African low-cost carrier – FastJet – is planning to start operations with Airbus A319s as early as October this year. Formed by Rubicon Diversified Investments, it will operate under a brand licence agreement with easyGroup Holdings Limited and Sir Stelios Haji Ioannou, the founder of easyJet.

Rubicon CEO Ed Winter, said: "The decision to launch FastJet with the Airbus A319 enables us to expand rapidly with each aircraft potentially carrying around 250 000 passengers a year." He added that FastJet plans to add at least five leased aircraft to the fleet within six months.

Etihad and Virgin Australia

ABU DHABI-based Etihad Airways has been given permission by the Australian government to double its shareholding in Virgin Australia to 10%.

"The strategic partnership has already delivered significant revenues to each airline. It is expected that the equity stake in Virgin Australia will lead to further revenue generating opportunities," a spokesperson for Etihad said.

New Saudi Carrier

QATAR AIRWAYS has expressed interest in launching an airline registered in Saudi Arabia. Akbar Al Baker, Qatar's CEO, has held talks with His Royal Highness Prince Fahd bin Abdullah Al Saud to discuss opportunities arising from the country's newly-launched aviation liberalisation policy. During the meeting, Al Baker expressed concern over excessive fuel charges in Saudi Arabia and its government's policy of controlling domestic air fares which, he said, were not in the interests of the travelling public nor airline operators.

Air Zimbabwe Suspends Flights

LESS THAN two months after their resumption, Air Zimbabwe has again suspended domestic services. The carrier stopped services to Harare, Bulawayo and Victoria Falls after grounding one of its Boeing 737s, which had been flying the routes, for a C-check and corrosion inspection. It had previously resumed operations in early May – after its fleet had remained on the ground for almost four months, citing debt issues and industrial action by key personnel including pilots and engineers.

in brief

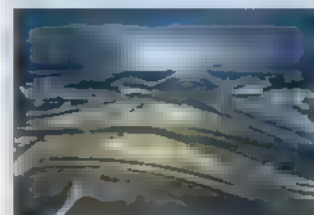
For a record eighth consecutive year, Emirates Airline's onboard 'ice' (information, communications and entertainment) system has been awarded the 'World's Best Airline Inflight Entertainment' award at the Skytrax World Airline Awards. Ice offers a choice of over 1,400 channels of entertainment, including up to 300 films from around the world, hundreds of TV choices and thousands of music tracks.

Abu Dhabi-based international luxury executive flight services company Royal Jet has announced new pricing packages for its fixed-base operation (FBO) facility in Abu Dhabi that, it claims, make it one of the most competitive in the region. It includes an additional two aircraft weight classes and a reduction of up to 75% on the technical stop (refuelling) rates.

Afriqiyah Airways of Libya has resumed its three times a week service from Tripoli to Gatwick Airport, London (halted by tech troubles in the country), using a 160-seat Airbus A320. Khaled Lazouli, General Manager for the carrier in the UK, said: "It's been a very difficult year for us all, but this day marks the dawn of a new relationship between the new Free Libya and the UK."

South African no frills airline kulula.com has installed an IT platform from Sabre Airline Solutions, which currently works on behalf of more than 380 airlines worldwide. The new infrastructure will help improve the quality of IT services and introduce customers to an array of new tools and benefits.

Abu Dhabi Airports Company (ADAC) and the joint venture of TAV, CCC and Arabtec have signed a \$2.94 billion contract for the construction of the Midfield Terminal Building at Abu Dhabi International Airport, with opening planned in 2017. Construction of the 7,535,000sq ft (700,000m²) terminal building will commence in the third quarter of this year. (Photo ADAC)



FlyCongo, a new airline based in the Democratic Republic of the Congo, began services to Johannesburg at the end of June with a twice-weekly Boeing 767-200ER Kinshasa-Lubumbashi-Johannesburg connection. FlyCongo was formed in March after the suspension of Hewa Bora Airways following a series of fatal accidents. The new airline aims to expand and deliver major improvements in air safety in the central African country.



AirJet has taken delivery of the first of two BAE Systems Jetstream 41s for passenger operations in Angola. The aircraft, D2-ENG (c/n 41095), is pictured in the company's smart livery awaiting delivery at Germiston's Rand Airport, South Africa, at the end of June. (Photo: BAE Systems)

First LAN Boeing 787



THE FIRST Boeing 787 Dreamliner for LAN Airlines has left the paint shop at the manufacturer's Everett, Washington facility in the carrier's full livery. The aircraft will be delivered before the end

of the year, and LAN will become the first to operate the aircraft in Latin America. Internal configuration will include 217 Economy Class seats and 30 in Premium Business Class.

Initial destinations will be from Santiago, Chile to Buenos Aires, Argentina; Lima, Peru; Los Angeles, California, USA, Madrid, Spain and Frankfurt, Germany (Photo Boeing)

Boeing 717s to be Leased

LOW-COST carrier Southwest Airlines will spend about \$100 million converting all 88 of its former AirTran Airways' Boeing 717s prior to their sub-lease to Delta Air Lines. The money will be spent on reconfiguring the interiors and painting the exteriors. Southwest's Chairman, President and CEO Gary Kelly insists the expense is justified. "You might think of it as a volume discount we were willing to offer to induce our sublease customer to take those aircraft," he said.

The company's CFO Laura Wright added that it expects a \$200 million boost in annual pre-tax income from replacing AirTran's 717 services with 737s that accommodate 26 more seats at roughly the same trip cost.

The carrier has signed a deal with Delta that will add three of the 717s to its fleet each month, starting in August 2013.

New Terminal Awaits Spring Opening

THE FIRST phase of the new Tom Bradley International Terminal (TBIT) at Los Angeles Airport will be opened in spring 2013. This will include both the Great Hall and the new west side boarding gates. Phase Two's East Gates, will be completed by the end of 2013. Adding an area of 24 million sq ft (115,120m²) will double the size of the existing facility and will cost \$1.545 billion.

Shorts in Alaska

ERA Alaska has been created by amalgamating the services of several smaller carriers within the state. These include ERA Aviation, Hagelund, Frontier Flying Service, and Arctic Circle Air. One of the Short 330s used by Arctic Circle Air, N168LM, (SH3104), now carries ERA Alaska and very large 'Cargo Solution' titles.



New Cargo Colours

As a result of South American carriers LAN and TAM merging and the creation of the LATAM group, LAN subsidiary ASASA Cargo will now operate under 'TAM Cargo' livery. The first aircraft in the new colours is Boeing 767-316ER, PR-ADY (c/n 32573), which was delivered to Rio de Janeiro International Airport in late July.



AeroSur Loses AOC

FOLLOWING ITS grounding in May, the Bolivian authorities have now withdrawn Aerosur's Air Operator's Certificate (AOC). The financially troubled carrier had begun to reduce its services and fleet from 11 aircraft to just one from February this year. Four rescue plans had been presented by a pair of international partners.

Aeromexico Goes For The MAX

MEXICO'S LARGEST airline, Aeromexico, has made a commitment to purchase up to 100 single- and twin-aisle aircraft – a combination of 90 Boeing 737 MAX 8s and 9s, plus ten 787 Dreamliners – the largest investment programme for a Mexican airline. When finalised, the order will be worth \$10.8 billion at list prices.



DEVELOPMENT OF the new \$460 million Quito International Airport in Ecuador reached an important milestone in July with the successful arrival of an American Airlines Boeing 757-200. Passengers on the short flight from the existing airport to the new facility included Augusto Barrera, Mayor of Quito, as well as members of the project team among them staff from the construction company Mott MacDonald.

This was the first commercial aircraft to land at the new airport as part of the operational preparations and follows the completion of the airfield in April 2012. Positioned 8,500ft (2,591m) above sea level, Quito International will replace the city's Mariscal Sucre International Airport which has no spare capacity and cannot be expanded due to its inner city location. (Photo Quito Airport)

New Mining Flights



EVERY TUESDAY, the Sinami, Sindicato Interempresa de Trabajadores de Montaje Industrial (inter-company industrial support workers union), charters an Aerovías DAP British Aerospace BAe 146-200, CC-ACQ (c/n E2094), on behalf of its affiliates, to fly

from Santiago/Arturo Merino Benítez International Airport to Calama's El Loa – in the heart of the northern Chilean mining zone. The aircraft carries Sinami Mineral Airways titles for the flights. The company is planning to expand services from various sea-level airports

in northern Chile, such as Iquique, to mining airfields including Coposa in Colchagua, enabling Sinami workers to fly right from their domestic bases to the mines – some of which are 12,468ft (3,800m) above sea level. (Photo Álvaro Romero)

Fiftieth 747-400BCF Delivered

Boeing has delivered the 50th 747-400BCF (Boeing Converted Freight) to the US military. The aircraft is a 747-400 that has been converted to a freighter. It is the first of a series of 100 aircraft that will be converted. The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East.

The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East. The aircraft is being delivered to the US military for use in the Middle East.

PLUNA Suspends Operations

GOVERNMENT-OWNED PLUNA Líneas Aéreas Uruguayas has suspended all flights indefinitely. The carrier's management said the company's financial situation had made it impossible to secure conditions for adequate operations. The Uruguayan Council of Ministers has subsequently prepared an emergency law to set conditions for private investors to partner with the federal government to establish a new Uruguayan flag carrier.

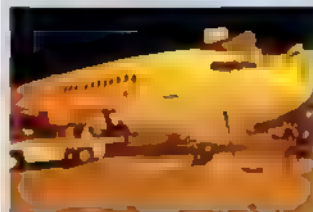
in brief

Officials at **Boston Logan International Airport** have brought into operation the latest in next-generation digital signage, the Tensator Virtual Assistant. The holographic images of 'helpers' inform and guide passengers quickly and efficiently through the international Terminal E security checkpoint.

Latin American airlines **Avianca-Taca** and **Copa Airlines** (plus subsidiary Copa Colombia) have become members of the Star Alliance. The addition of the carriers "strengthens our presence in the rapidly growing Latin American market," said Star CEO Mark Schwab. "Our customers now enjoy increased connectivity across the Americas by connecting through five new Star Alliance hubs right in the middle of the American continent."

An impressive revenue performance has resulted in a second quarter income of \$228 million for **Southwest Airlines**. This is an increase of 41.6% over last year. The low-cost carrier's second-quarter revenue rose 11.6% year-over-year to \$4.62 billion. The easing burden from lower oil prices in recent months resulted in a fuel expense increase of just 3.3% year on year.

Brazilian low-cost carrier **GOL** has started services to Miami International Airport (MIA) with a weekly charter passenger flight from São Paulo, Brazil using Boeing 737-800s. The airline has applied to the US Department of Transportation for scheduled route authority and is expected to begin daily services after it has federal approval. The inaugural flight to MIA was welcomed with a water cannon salute from Miami-Dade Fire Rescue. (Photo MIA)



GKN Aerospace has been awarded a contract for the design, development and production of cockpit and passenger cabin windows for the Bombardier Global 7000 and Global 8000 business jets. Design, development and production will take place at the GKN Aerospace facility in Garden Grove, California, USA with initial test deliveries taking place in 2013.

Low-cost carrier **JetBlue** has announced an agreement for **Aer Lingus** to move its New York flight operations from Terminal 4 at John F Kennedy International Airport to JetBlue's Terminal 5 in early 2013. The Irish carrier will become the first foreign airline to move to Terminal 5, offering customers a connection to one of JetBlue's many destinations across the Americas.



THAI AIRWAYS International's new light premium regional subsidiary, THAI Smile took delivery of its initial Airbus A320-232, HS-TXA (c/n 5198) on June 28 in Hamburg, Germany. The jet is configured to seat 174 passengers, with the first five rows designated for 'Smile Plus,' a short-haul Business Class incorporating extra seat pitch and an enhanced onboard product. The carrier has 11 A320s on order, the last of which is due to

arrive in mid-2015. The first six airframes are being leased from SMBC Aviation Capital, while the remaining five are to be purchased directly from Airbus. These will be equipped with 'Sharklet' wing tip devices, which will deliver 3.5% in fuel savings. Speaking at the handover, THAI Smile's Managing Director, Mr Woranate Laprabang said: "We are delighted to take delivery of our brand new A320.

Thanks to the aircraft's cabin comfort and operational reliability, THAI Smile will be able to serve the market gap between low-cost and full service airlines." Nine days later the A320 flew the company's inaugural flight TG750 from Bangkok/Suvarnabhumi to Macau with a twice-daily rotation. The carrier plans to launch several domestic rotations next, followed by more international destinations. (Gerd Beilfuss/AirlinersGallery.com)



was flying to Tel Aviv for modifications before being handed over to the customer.

Malaysian Airlines Launches Superjumbo Services

MALAYSIA AIRLINES celebrated the launch of its first Airbus A380 non-stop service between Kuala Lumpur and London/Heathrow on July 3. It was flown by the carrier's first Superjumbo to be delivered, 9M-MNA (c/n 078) which has been painted in a special livery to mark the type's introduction. On board the inaugural flight was Malaysia Airlines' Group CEO, Ahmad Jauhari Yahya who was joined by other Malaysian dignitaries. Speaking at the event, which was held in the company's recently refurbished Golden Lounge in Terminal 4, the CEO said: "The A380 showcases our latest premium offering and it was imperative that our first A380 was inaugurated on our prestigious London rotation, a route we have been flying since 1974. The A380 is our latest flagship offering new levels of comfort, luxury and convenience for long-haul travel and we look forward to delivering great Malaysian hospitality to our UK guests."

Indian Success

JET AIRWAYS is bucking the trend in the Indian sub-continent aviation sector by reporting an operating profit of INR 11,686 million (£135 million) despite the high price of aviation fuel and depreciation of the rupee. International traffic grew by 26% during the fourth quarter compared to the same period last year, generating 56% of total revenues. While domestic traffic also grew by an impressive 22%. The carrier says that this success is partly due to closer monitoring of its costs, as well as a network rationalisation of dropping unprofitable routes. The company's Middle Eastern routes continue to be a primary driver for fiscal year 2013, with the airline already increasing frequencies between Mumbai and Dubai by launching a fourth daily service. It has also added a second frequency to its four times per week link to Kuwait. Jet Airways has also consolidated its low-cost product under the JetKonekt brand.

Hainan Announces First Dreamliner Route

HAIKOU-BASED Hainan Airlines has said it is planning to operate its first, yet-to-be-delivered Boeing 787 on its new Beijing to Chicago/O'Hare link which is being launched next year. This will be the carrier's second North American route joining its Beijing to Seattle service which started in June 2008. Hainan signed a contract for

eight Dreamliners in November 2005 and added two further aircraft in January 2007, with deliveries originally set to start in December 2011; however well-publicised production problems have led to further delays. Hainan Airlines' Chairman, Chen Feng was quoted earlier this year as suggesting the company had considered

exchanging its Dreamliners for 747-8s instead, due to the continuous delivery delays. The carrier has issued a statement to clarify the situation: "We are indeed considering the 747-8 now, as the continuous delivery delays of the 787 have affected our operations. But we will not be cancelling any of our Dreamliner orders."



(c/n 36138). The carrier has 14 examples on order and is introducing this new livery especially for the type.



in brief

Korean Air has signed a firm order for two more Boeing 777-300ERs in a deal valued at \$560 million at list prices. The South Korean flag-carrier already operates four 777 300s and nine -300ERs and has a further four on order. These last two aircraft are due to be delivered in late 2014.

Air Tahiti Nui has signed a contract with SR Technics for the completion of cabin modifications on its Airbus A340-300s. The work involves converting the existing three-class cabin configuration into a two-class layout, with the replacement of all seats and the installation of a state-of-the-art in-flight entertainment (IFE) system. The modifications will be completed in 2013.



Singapore's Changi International Airport is celebrating the completion of four years' work on upgrading the facilities of its oldest terminal. Started in May 2008, the \$5500 million project has rejuvenated Terminal 1. A favourite spot for many is the viewing gallery which has been extended and features a 'floating' floor extending beyond the building's façade. (Photo Changi Airport Group)

Cebu Pacific Air, the Philippines' largest carrier, will be installing OnAir internet services on its fleet of Airbus A330s starting in mid-2013, in time for the airline's initial deployment of long-haul flights. This will enable its passengers to access the internet during flights and make calls using Voice over Internet Protocol applications on their Wi-Fi enabled personal electronic devices. The company has also taken an option to install Wi-Fi on its A320s if the idea proves to be popular with passengers.

Saipan Air has indefinitely postponed its inaugural flight, originally set for July 1, due to problems in obtaining an aircraft. The deal to lease a jet from Swift Air fell through and this left the carrier with little time to organise a suitable replacement and secure the necessary government licences for it to fly to Japan and China.

AirAsia and **GE Aviation** are working together to design and deploy International Civil Aviation Organisation (ICAO) Required Navigation Performance, Authorisation Required (RNP, AR) flight paths at 15 airports in Malaysia. The project will streamline air traffic management leading to more direct approach routes and fuel savings. Work has started at Kuching and Penang International Airports and the network will be completed by 2016.

New Terminal for Haikou Meilan International

Japanese Fire Fighting

THE TOKYO Fire Department has placed an order for a single Eurocopter EC225 to add to its growing fleet of fire-fighting, emergency medical services and search & rescue helicopters. This latest deal follows the purchase of the Fire Department's first EC225 in December

after a review of the devastating Great East Japan earthquake and tsunami on March 11, 2011.

The European manufacturer has been the sole helicopter supplier to the Fire Department since 1967, when it delivered a SA3160 Alouette III, and has since then

provided four Dauphins and three Super Pumas. The EC225 is set to become the main medium-heavy lift helicopter in Japan, with the company securing five orders in the last year in addition to those for the Tokyo Fire Department. (Photo Eurocopter)



Cobham operates from Rough Airstrips

ADELAIDE-BASED Cobham Aviation Services Australia has opened a large number of gravel air strips around the country to commercial passenger jets for the first time, delivering what the company believes will be huge benefits to mining and energy firms as well as fly-in fly-out (FIFO) operations. The latter makes it possible to employ people in remote areas – rather than relocating workers and their families.

Cobham has launched flights to rough

airstrips following the modification of several of its British Aerospace 146 aircraft with gravel kits that protect the airframe and undercarriage from damage during take-offs and landings. The kits were put through 18 months of trials prior to gaining Australian Civil Aviation Safety Authority approval. Prior to this innovation, airlines were forced to use turboprop aircraft and were limited to carrying just 50 passengers.

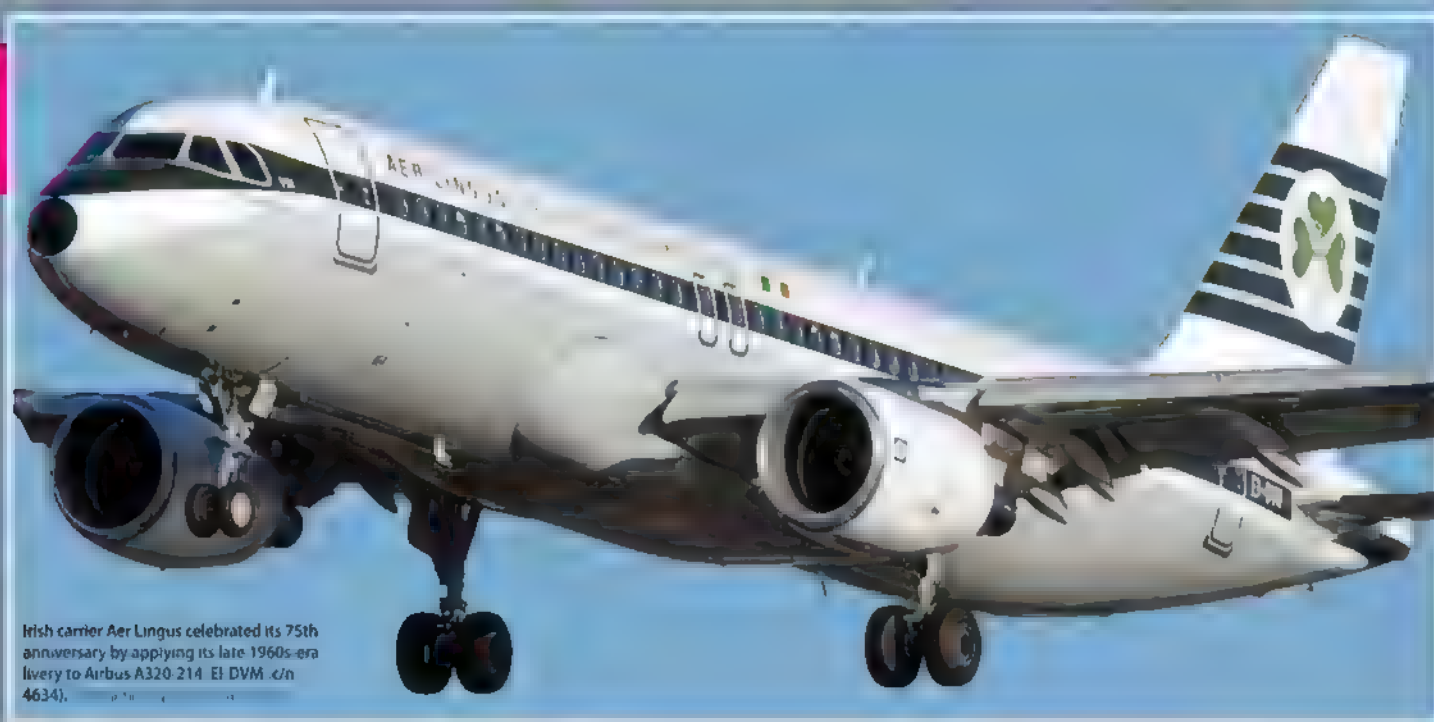
So far two 71-seat 146-100s have been

modified and Cobham is in the process converting more of its fleet. The work is being carried out at the company's Adelaide and Perth facilities and requires the application of the approved BAE Systems' airframe protection kit, which includes specialized rubber paint to protect the underside of the fuselage. A nosewheel stone deflector and Kevlar undercarriage shields also protect the landing gear from dislodged gravel and debris.



Many airlines have turned to special retro liveries to commemorate landmark anniversaries. Here's a selection of the some of the more recent examples – many more can be seen in our annual special, *Airliner Classics*.

The theme is continued inside the cabin with crews on each jet wearing period uniforms.



Irish carrier Aer Lingus celebrated its 75th anniversary by applying its late 1960s-era livery to Airbus A320-214 EI-DVM (c/n 4634).



Dniproavia's Embraer 145LR, UR-NDA (c/n 145330), carries special markings to celebrate the 80th anniversary of the Ukrainian airline's predecessor, Dnipropetrovsk Aviation Enterprise.



Former Hungarian national carrier Malev applied a retro livery to Bombardier Dash 8-Q400, HA-LQD (c/n 4063), in 2011 to commemorate its 65th anniversary. Sadly, the airline ceased operating barely a year later.



Czech Airlines' Boeing 737-555, OK-XGC (c/n 26541), wears the 1960s-vintage colour scheme originally carried by the operator's first jet aircraft, the Tupolev Tu-104.



Garuda Indonesia has applied vintage liveries to two of its Boeing 737-84Ns; PK-GFM (c/n 39920) here carries brand logo 1961-1969, while sistership, PK-GFN (c/n 38033) wears the colour scheme adopted between 1969 and 1985. (Aircraft: @gogobird)



Old and New – All Nippon Airlines marked its 60th anniversary by repainting Boeing 767-381, JA602A (c/n 27944) in its 1960s-vintage 'Mohican' colour scheme. A 777 in the carrier's current livery provides a fitting backdrop.

Chinese Turboprop Revealed



THE HARBIN Aircar Y12F is a development of the earlier Y12, but is fitted with a retractable undercarriage and turboprop engines. It can accommodate

19 passengers plus bulk cargo or carry freight in three LD3 containers. With extra fuel tanks, it can be used for longer flights such as VIP, maritime surveil-

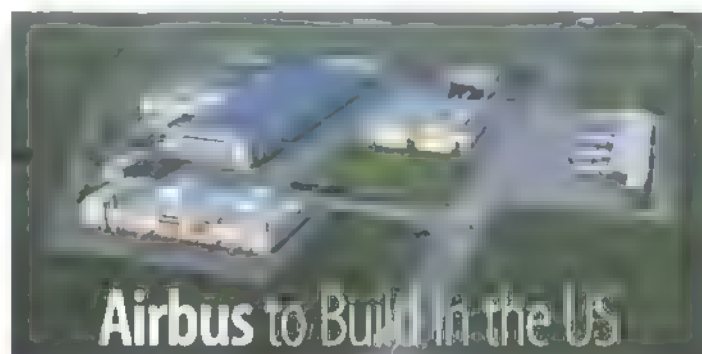
lance, aerial telemetry and photography, remote sensing, geological survey, military transportation and parachuting. The Aircar took to the air for the

first time in December 2009 and certification from the Civil Aviation Administration of China (CAAC) is expected to be this year. (Photo Harbin)

Chinese Bid for Hawker Beechcraft

AEROSPACE MANUFACTURER Superior Aviation Beijing of China has made a bid to acquire Hawker Beechcraft for \$1.79 billion. The transaction will not include the Hawker Beechcraft Defense Company, which would remain a separate entity. "Superior has had a long-standing interest in our commercial aircraft

business, having first approached us several years ago regarding a potential strategic partnership," said Hawker Beechcraft's CEO, Robert S Miller. "It would also give [us] greater access to the Chinese business and general aviation marketplace, which is forecast to grow more than 10% a year for the next 10-15 years."



Airbus to Build in the US

AIRBUS IS to establish a manufacturing facility at the Brookley Aeroplex at Mobile, Alabama, to assemble and deliver A320 Family aircraft. It will be the company's first US-based production facility and will, says Airbus, create jobs and strengthen the aerospace industry in the region

Once complete, it will assemble A319s, A320s and A321s. Construction of the facility will begin in the summer of 2013, with aircraft assembly starting two years later and first deliveries beginning in 2016. The company predicts that the facility will produce between 40 and 50 aircraft per year by 2018. (Photo Airbus)



Sichuan Airlines took delivery of its 16th Airbus A319 133, B-6422/D-AVYU (c/n 5208), on July 5. The aircraft is pictured at the start of its first flight from Airbus' Hamburg facility at Finkenwerder on June 25. News via Jet-Mark.

airbus delivered the following aircraft in June:

Aircraft	Customer
A319	AirAsia, Air Berlin, Air China, Air France, Air India, Air Mauritius, Air New Zealand, Air Transat, Air Vietnam, Alitalia, Asiana Airlines, Cathay Pacific, China Eastern Airlines, China Southern Airlines, Delta Air Lines, Emirates, Etihad Airways, Garuda Indonesia, Hawaiian Airlines, Indigo, Interjet, JetBlue, Jetstar, Japan Airlines, KLM, Lufthansa, Middle East Airlines, Peach Aviation, Singapore Airlines, Spirit Airlines, TAM, Thai AirAsia, Thai Smile, T'way Airlines, Virgin America, Volare, Wizz Air
A320	30
A321	9
A330-300	4
A350-900	2
A380-800	2
Total	51

EMBRAER DELIVERIES

Type	Second Quarter	Total 2012
E170		
E175	8	10
E190	22	35
E195	5	11
Light jets	12	29
Large jets	3	4
TOTAL	55	89

BRAZILIAN MANUFACTURER Embraer delivered 35 jets to the commercial aviation market and 20 to executive aviation customers in the second quarter of 2012. Deliveries for the first six months of the year total 56 commercial and 33 executive jets, 13 more than for the same period last year.

On June 30, 2012, the firm order backlog value was \$12.9 billion – including the acquisition of five more E190s by China's Hebei Airlines which was not formally announced until July 9.

TaxiBot Trials

TAXIBOT – A joint development between Israel Aerospace Industries (IAI), vehicle manufacturer TEL, Airbus and Lufthansa Technik's subsidiary Lufthansa-LEOS – is a new tractor, controlled from the cockpit by the pilot, which can pull aircraft from the gate to the runway without using their engine power. A six-month test will start at Frankfurt Airport

In the spring of 2013 to assess the system under normal conditions. The new tractor is designed so that the aircraft's nosewheel connects to a rotating table on the TaxiBot to allow the pilot to control the aircraft using the cockpit steering systems just as the flightdeck crew would if the aircraft were moving under its own engine power.

ecoDemonstrator Ready For Flight



BOEING HAS completed the assembly of a special Next-Generation 737-800 for American Airlines. It will be used as a flying test bed for validating what the company calls "environmentally progressive" technologies. Known

as the 'ecoDemonstrator', it was fitted with test equipment before beginning a month of intense flight testing in Montana.

The 2012 ecoDemonstrator programme is a partnership between

Boeing, American Airlines and the US Federal Aviation Administration. Trials will include improvements to wing and engine efficiency as well as fuel-saving flight trajectory methods. (Photo Boeing)

First A350 at Toulouse

AIRBUS HAS delivered the front fuselage for the first flyable A350 XWB (c/n 001) to the final assembly line in Toulouse, France. The 69ft (21m)-long section, already fitted with internal systems, was flown in from the com-

pany's site in Saint-Nazaire aboard an A300-600ST Beluga. The fuselage section will be mounted in a giant assembly jig ready to be joined with the centre and aft fuselage sections over the summer period.

BOEING DELIVERIES



The second Boeing P-8 for the Indian Navy completed its initial flight from Renton on July 12. A derivative of the Next-Generation 737-800, it is the second of eight long-range maritime reconnaissance and anti-submarine warfare aircraft Boeing is building for India. (Boeing)

Boeing delivered the following aircraft in June

Model	Quantity	Customer
737-700	1	GEAS
737-800	30	ACG (3), Air Berlin, Air China, Air Lease Corporation, American Airlines (2), Avolon (2), BBAM, China Southern Airlines (2), Ethiopian Airlines, flydubai, GEAS, Hainan Airlines, Japan Airlines, Lion Air, Norwegian, Shandong Airlines, Southwest Airlines (4), Turkish Airlines, Virgin Australia (2), WestJet
737-900ER	4	Continental/United (2), Korean Air, Turkish Airlines
747-8BBJ	1	Boeing Business Jets
747-401	1	Lufthansa
767-300F	2	Azerbaijan Airlines, LAN
777-300ER	7	Emirates Airline (2), Etihad Airways, KLM, Korean Air, Philippine Airlines, Saudia
777F	1	Korean Air
787-9	3	All Nippon Airlines (3)
Total	50	

Big CFM Deal

FOLLOWING THE large order for the Boeing 737 MAX from Aeromexico (see Americas News this issue), engine manufacturer CFM announced that the airline has chosen the LEAP-1B engine to power the 90 aircraft. The order is valued at \$2.25 billion at list prices. LEAP engines are a product of CFM International a 50/50 joint company between Snecma (Safran group) and GE.

Volcanic Ash Detection

LOW-COST carrier easyJet and Nicarnica Aviation have partnered with Airbus to evaluate airborne volcanic object imaging detector (AVOID) ash detection equipment on the manufacturer's A340-300 test aircraft.

The first phase took place in early July and initial test flights at altitudes of up to 40,000ft were successful. These included mounting the equipment externally on the left side of the aircraft fuselage, with recording equipment and real-time monitors placed inside the cabin allowing viewing of the sky ahead.

The flights were performed to assess the sensor's physical behaviour when mounted on the aircraft and its performance without the presence of volcanic ash.

In brief

Simulator manufacturer CAE has recently sold three full-flight simulators worth a total of more than €550 million, bringing the total number of FFS sales announced to date during the 2013 fiscal year to seven. The latest sales include an Airbus A330 to AeroHot, a Boeing 787 to Air Canada and a 737NG to the Kunming Aviation Safety Training Centre in China.

Airbus has reported that the first 'cutting of metal' for the A320neo has taken place, marking the beginning of the manufacturing process. Machining of the first engine component was undertaken at the company's dedicated pylon and nacelle factory in Toulouse.

GKN Aerospace has opened an engineering and technology centre at its Filton site near Bristol. It will focus on future wing structure design and manufacture, with over 100 engineers expected to be based at the site providing integrated design and build capability. Over 50 permanent staff are already in place at the Filton centre and a recruitment programme is under way to fill the remaining posts. (Photo GKN)



The International Civil Aviation Organization's (ICAO) Committee on Aviation Environmental Protection (CAEP) has unanimously agreed on a system that characterises the CO₂ emissions for aircraft types with varying technologies. The CAEP agreement will allow the member States and observer organisations to move onto the next stages in the development of an ICAO CO₂ aircraft standard.

Aircraft lessor RBS Aviation Capital has been acquired by the Sumitomo Mitsui Banking Corporation and renamed SMBC Aviation Capital. It claims to be the fourth-largest company in its sector with 209 aircraft and another 82 on order for delivery by 2015.

SR Technics and Finnair have signed an agreement for engine and component services. The carrier will source all engine services for its Airbus A320s and A340s and component services for its Airbus and Embraer fleets from SR Technics, starting in July.

SAS Scandinavian Airlines and Lufthansa Technik have signed a seven-year component supply contract for the carrier's complete fleet of some 140 aircraft. Spare parts will be supplied to the airline's home bases at Copenhagen, Stockholm and Oslo. The contract also includes IT integration services.

AIR FREIGHT TAKING IT



The huge development of air transport in the Gulf region in the past two decades has provided many opportunities to launch new ventures in the commercial aviation sector.

Maximus Air is one of the best examples in that it combines air cargo charters as well as aircraft, crew, maintenance and insurance (ACMI) leasing in a geographical area where freight transport has been historically growing at 2.3 times the level of the region's gross domestic product (GDP). Set up in Abu Dhabi in 2005, and

The Antonov An-124 is possibly the most specialised outsized heavy-weight cargo-lifter in the world. (Airteamimages.com/Dave Sturges)

In 2007, the Ilyushin Il-76TD fleet was kept active transporting relief goods for the 'African Union' mission in Sudan. More than 900 tonnes of cargo were airlifted by the rugged Russian four-engined jets on 60 flights in less than two months.

now with a European base in the UK at London/Stansted as well, Maximus Air (formerly known as Maximus Air Cargo) has grown to become the largest all-cargo airline in the United Arab Emirates (UAE) as well as the signature operator of large cargo aircraft in the region. As reflected in its name, the carrier specialises in outsized air cargo requirements and is a wet-lease specialist offering its services to any operator – be it a mainline

scheduled carrier, a governmental entity, VIP customer, military or humanitarian organisation – and supplying the most practical, and cost-effective, logistical solutions.

History

Maximus Air Cargo's adventure started in 2005 when the UAE President, Khalifa bin Zayed Al Nahyan, approved the launch of an air freight operation

Luigi Vallero analyses the progress of the Gulf region's specialised outsize cargo carrier – Maximus Air



TO THE MAX



The Il-76TD fleet, although quite fuel thirsty, allows unmatched capability to transport weights of up to 46 tonnes from airports with little or no loading support devices. (Airlines: Maximus Air (igo unless stated))



MAXIMUS AIR

ICAO Code: MXU

Radio: 'Cargo Max'

www.maximus.aero

www.cargoair.org

Maximus launched a five-year strategic plan in 2007 and introduced a further aircraft type – in the shape of two Airbus

using three Ilyushin Il-76TDs and a single Antonov An-124-100 (previously operated by the UAE Air Force); an unusual fleet mix for any airline operation outside of the CIS.

Besides the aircraft crews, the original company staff amounted to only 14. Having previously been a government-run organisation, with the four Russian-built aircraft placed on the Ukrainian register, the first issue for the new 'airline' was to gain a commercial operator's Certificate of Airworthiness (CoA) as well as assuming a clearly defined trade identity. The name Maximus – Latin for 'greatest' or 'largest' – was finally chosen to underline the company's aircraft capacity, fleet size and diversity, flexibility and efficiency.

At the end 2005, the first year of operations, the company had flown 578 hours and had a turnover of \$12 million. The An-124, which was temporarily operated by Aviant on behalf of

>>





Maximus Air Cargo, provided an ideal opportunity for the new venture, being possibly the most specialised outsized heavyweight cargo-lifter in the world. It includes a self-contained system of multiple winches and overhead cranes and has a 120-tonne airlift capability. The Il-76TD fleet, although quite fuel thirsty, allows unmatched capability to transport weights of up to 46 tonnes from airports with little or no loading support devices.

The UAE's General Civil Aviation Authority's (GCAA) Air Operator's Certificate (AOC) was successfully obtained on June 25, 2007. This made the airline fully-compliant with stringent standards comparable to EU OPS-1 (the EU regulation specifying minimum safety and related procedures for commercial passenger and cargo fixed-wing aviation) – and able to commercialise its charter capacity in the Gulf region from both Abu Dhabi International and Al Bateen Executive Airports.

Adding to an already eclectic fleet mix, the airline soon acquired two ex-UAE Air Force Lockheed L-100-382G Hercules – placing them on the UAE Civil Register with the appropriate registrations A6-MAC and A6-MAX – to become one of the few airlines in the world flying the type in commercial service.

The Lockheed workhorse – fitted with an airliner-style 16 passenger cabin including a galley and toilets (mounted on pallets) – gave Maximus access to small airports, and even those with

only gravel strips, while still uploading weights of up to 19 tonnes, and proved to be an ideal machine for humanitarian missions in Africa.

With the global ACMI wet-lease business growing at around 18% per year, Maximus launched a five-year strategic plan in 2007 and introduced a further aircraft type – in the shape of two Airbus A300-622RFs (A6-MXA and A6-MXB). The European-built twin-jet had been identified as the most cost-efficient aircraft to fulfil the cargo needs of many potential customers.

The year proved to be a very important one for Maximus, which opened its European sales office at London/Stansted Airport. It also committed to an 18-month overhaul and upgrade programme for the three Il-76TDs with the Ilyushin Design Bureau. The

"WE ARE DELIGHTED TO HAVE BEEN SELECTED BY ONE OF THE WORLD'S FOREMOST LOGISTICS COMPANIES TO PROVIDE AIRCRAFT UNDER AN ACMI AGREEMENT."

President and CEO Fathi Hilal Suhazzar

FLEET				
Type		c/n	Weight	Status
Airbus A300B4-622RF	A6-HAZ	837	46 tonnes	current
	A6-MXA	788	46 tonnes	current
	A6-MXB	767	46 tonnes	current
	A6-MIN	797	46 tonnes	current
	A6-SUL	836	46 tonnes	current
Antonov An-124-100	UR ZYD	19530502843	120 tonnes	current
Ilyushin Il-76TD	UR BXQ	1023410360	46 tonnes	current
	UR BXR	1023411384	46 tonnes	current
	UR BXS	1023411368	46 tonnes	sold in 2011
Lockheed L100-382	A6-MAC	382-5024	19 tonnes	sold in 2011
	A6-MAX	382-4895	19 tonnes	sold in 2011
	A6-QFY	382-4961	19 tonnes	sold in 2006

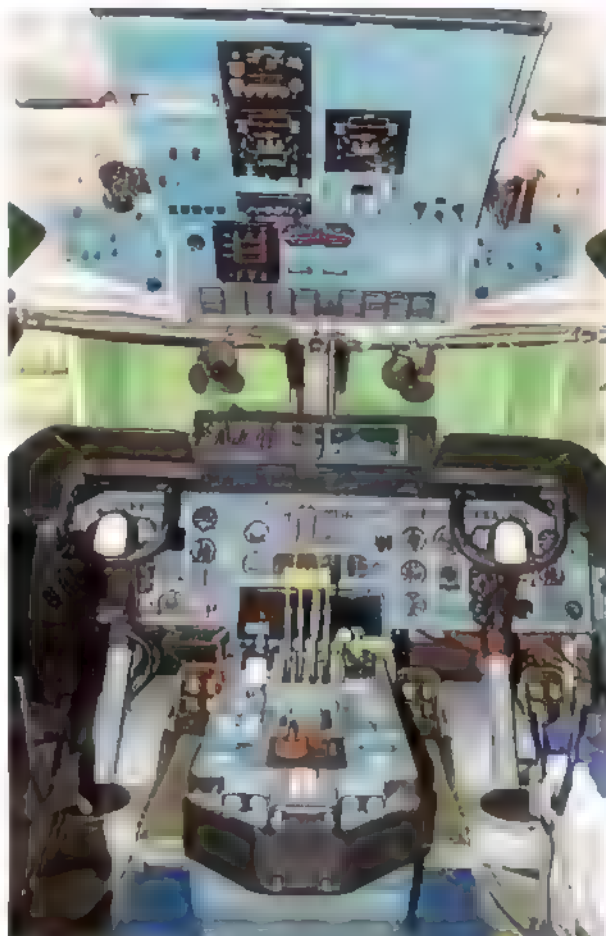
contract, valued at more than \$10 million, added seven years of flying to these specialist aircraft.

The year's commercial highlights for the company included securing short- and medium-term ACMI contracts for the A300s and flying regular scheduled services on behalf of both Etihad Airways' Crystal Cargo and Iberia – its first two large airline customers. Meanwhile, the Il-76TD fleet was kept active transporting relief goods for the 'African Union' mission in Sudan. More than 900 tonnes of cargo were airlifted by the rugged Russian four-engined jets on 60 flights in less than two months.

By April 2008, with an eight-strong fleet of four aircraft types, the company's workforce had grown to more than 130. Being, in effect, an extension of the UAE's Presidential Flight, providing high-quality services and paying close

Above • The Antonov An-124 includes a self-contained system of multiple winches and overhead cranes and has a 120-tonne airlift capability. (Author)

Right • The airline acquired two ex-UAE Air Force Lockheed L-100-382G Hercules – placing them on the UAE Civil Register with the appropriate registrations A6-MAC and A6-MAX. (Airliner World)



attention to detail have been in the company's DNA since its inception: this was reflected by the multiple awards it's won, including Supply Chain and Transport Awards' (SCATA) 'Air Cargo Operator of the Year' – first in 2008 and then again in 2010. The company's President and CEO, Fathi Hilal Buhazza, also received the 2008 Social Conscience of the Year Award at LOG's 'Logistic Excellence Optimisation' award ceremony for his initiative to offer flights to charity organisations at cost price via the 'Care by Air' programme (see panel).

Additional short- and medium-term ACMI contracts on both A300s were secured with the aircraft flying regular scheduled services on behalf of Iberia, Etihad Airways, Air France and Sudan Airways. A formal co-operation

Above • The – not unsurprisingly – spacious cockpit of the Antonov An-124. *Airliner World*

Above right • The ability to open the nose of the Antonov An-124 allows cargo to be driven straight onto the aircraft. *Airliner World*

In 2011, Maximus' sold both Lockheed Hercules and one Ilyushin Il-76, so that the company could focus on the ACMI sector

agreement was also reached with the UAE Red Crescent with Maximus appointed as the exclusive partner for its air relief support programmes. During the first nine months of 2008, non-scheduled flight hours grew from 1,885 to 6,883 (compared to the same period of 2007) with freight-tonne kilometres (FTK) flown up from 69 million to 278 million. The customer base in the meantime had expanded to include Air Charter Service, UPS, DHL, Lufthansa Charter, BAE Systems, Air Charter UK, Panalpina, Qatar Airways, Air Freight Aviation Logistics, Air Partner and Chapman Freeborn as well as UAE government/authority agencies including Presidential Affairs, Royal Family, UAE Armed Forces, UAE Red Crescent, Abu Dhabi Equestrian Club and the Equestrian Federation.

Although a relatively complex operation, the company's mixed fleet of freighters enables it to assign the right aircraft to a specific air cargo requirement. In 2009 Maximus joined the Abu Dhabi Aviation Group, which includes helicopter and turboprop operator Abu Dhabi Aviation and VIP specialist Royal Jet. Two years later, Maximus was operating its fleet across the Middle East, Europe, Africa and Asia on behalf of numerous clients while providing regular commercial cargo services. Maximus also obtained the International Air Transport Association's coveted IATA Operational Safety Audit (IOSA) certification in 2011 and by the end of the year, it had completely revamped its image by rebranding as Maximus Air, losing the word 'Cargo' >>





'CARE BY AIR' Programme

Jointly launched in November 2009 by Maximus Air Cargo, Etihad Airways and ADAC (Abu Dhabi Airports Company), the 'Care By Air' non-profit humanitarian organisation aims to provide cargo space 'at cost' in order to deliver relief aid to disaster-stricken areas around the world. Supporting members to the initiative include the UAE Red Crescent and the United Nations World Food Programme (WFP), while further partner organisations are expected to join the cause. Maximus' President and CEO, Fathi Hilal Buhazza, together with Etihad Airways CEO James Hogan and ADAC's Senior Vice President Operations, Ahmed Al Haddabi, pledged their support as founding members by signing a memorandum of understanding. The document was also signed by supporting members represented by His Excellency Ahmed Humaid Al Mazrouei, Chairman of the UAE Red Crescent Authority, and Finbarr Curran, Country Director of the United Nations

World Food Programme.

The rationale of the 'Care By Air' programme – open to cargo and hybrid airlines as well as to suppliers – is based on IATA statistics that say roughly only 70% of the maximum cargo loading capacity on commercial services worldwide is used. This suggests that up to four million tonnes of empty space are flown every week, from more than 3,400 airports across 220 countries. On this basis, if only 0.0003% of this space were to be filled, then five million people in need could be fed for a day. 'Care By Air' aims to provide cargo services to relief and humanitarian organisations 'at cost' across its network of partner organisations and businesses, ensuring the distribution of aid and vital supplies in times of need.

"Our commitment to humanitarian and relief operations is passionate and these missions show the 'Care by Air' concept successfully in practice. Together with our partners we have

demonstrated how the 'Care by Air' at cost business model can really work to reduce costs in the field of humanitarian aid," said Fathi Hilal Buhazza. "We are proud to launch such a worthy cause from the UAE."

Cargo carriers participating in 'Care By Air' are invited to quote to the organisation a number of humanitarian flights 'at cost'. The sustainability of the model differs for each airline, depending on its internal costs structure. For Maximus Air this value is set at about 5% of all the charter services it operates. The airline will benefit from having its variable cost structure covered, while fixed costs including maintenance will be spread over a higher aircraft utilisation, finally reducing the overall overhead burden for the rest of its services. Benefits for the airline also include a return in terms of image, as the carrier is entitled to carry the 'Care by Air' logo on its aircraft and will receive extensive media coverage by the organisation.

to underline its aim to be an all-round air services provider. Despite the global financial downturn, Maximus' performance remained strong with growth and profit margins exceeding the company's targets – helped by Abu Dhabi's geographical location, as the centre of traffic flying between European, Asian and African markets.

response within six hours' notice and humanitarian support to virtually any destination worldwide. It is also well respected in the specialised area of transporting horses and other animals.

In 2010 the company recorded 10,276 flying hours and a turnover of \$116.8 million, a 38% and 18.5% increase respectively compared to the

previous year. Despite this growth, in 2011, Maximus' fleet composition was revamped, with both Hercules and one A1-76 being sold, so that the company could focus on both the ACMI sector as well as possibly developing its own scheduled operations. Three more Airbus A300-600s were acquired to replace them, the new aircraft joining the fleet in July

'Care by Air' is a non-profit, humanitarian organisation that aims to provide cargo space 'at cost' in order to deliver relief aid to disaster-stricken areas around the world.

Maximus Air today

The airline today operates in a number of specialised key market sectors including charters carrying outsized air cargo, wet-leasing aircraft, transportation of dangerous goods, VIP flights, rapid

WITH THE GLOBAL ACMI WET-LEASE BUSINESS GROWING AT AROUND 18% PER YEAR, MAXIMUS LAUNCHED A FIVE-YEAR STRATEGIC PLAN IN 2007 AND INTRODUCED TWO AIRBUS A300-622RFS."



The Airbus A300B4-600s are capable of carrying 46 tonnes of freight.

The latest Airbus A300B4-600s are ex-Japan Airlines passenger aircraft converted by European Aeronautic Defence and Space Company's (EADS) Elbe Flugzeugwerke in Dresden, Germany.



and September 2011 and February 2012. These are ex-Japan Airlines passenger aircraft converted by European Aeronautic and Space Company's (EADS) Elbe Flugzeugwerke in Dresden, Germany. Two are being used on the regional scheduled cargo network for Etihad Cargo, while at the 2011 Dubai Air Show, Maximus announced a further development in its business partnerships outside the Middle East after signing an ACMI deal with DHL. Under the terms of this contract, two of the newly converted Airbuses operate for the courier across Europe.

"We are delighted to have been selected by one of the world's foremost logistics companies to provide them with these aircraft under an ACMI agreement," said President and CEO Athu Bilal Buhazza at the show. "They have already started flying on their new contracts. Going beyond the shores of the UAE and the region and further into international airspace is part of our new growth strategy." *EW*

Thanks to Johanne McConachy, Marketing Manager Maximus Air, for her help in preparing this article.



WORTH
£12.49

FREE

WHEN YOU TAKE
OUT A 2 YEAR OR
DIRECT DEBIT
SUBSCRIPTION TO

**Airliner
World**



AIRBUS A380 WORLD TOUR & FIRST DELIVERY DVD
Join AirUtopia as they cover the final year of flight testing of the Super Jumbo A380 with stops in Colombia, Thailand, Vietnam, South Korea, America, Australia, the Philippines, the United Arab Emirates concluding with the first aircraft delivery to Singapore in October 2007

REGION FREE DVD RUNNING TIME 60 MINUTE

THREE EASY WAYS... TO ORDER THIS FANTASTIC SUBSCRIPTION OFFER!



ONLINE



PHONE



POST

Subscribe at:
www.airlinerworld.com

UK 01780 480404
OVERSEAS +44 1780 480404
Monday to Friday
9.00am until 5.30pm
Fax UK 01780 757812
Overseas +44 1780 757812

Complete the form and post to:
Airliner World,
Key Publishing Ltd,
PO Box 300, Stamford,
Lincs, PE9 1NA,
United Kingdom

Direct Debit UK only. If paying by Direct Debit please send in form. Please allow 28 days for gift delivery.

Olympic Airline Livery Co

Once again *Airline World's* 'Olympic Airline Livery' competition has shown that our readers have a strong understanding of the commercial aviation industry as well as possessing stunning creative talents. We received more than 200 entries from around

the world and have enjoyed looking through all the innovative designs. Entries came from pre-school children to professional design agencies. The competition, which was launched in the April 2012 issue, invited readers to design a special Olympic livery for an existing airline.

Barry Woods-Turner announces the winning entries and highlights some of the more interesting designs received.

FIRST PRIZE
Congratulations to Joseph Gerrard from Liverpool who has produced this magnificent and colourful illustration of a British Airways Airbus A380, complete with a rhythmic dancer on the tail, and a 'London Calling the World' theme



Wendy Ettema based her illustration on Boeing's new 787 Dreamliner. It features an Olympic Torch on the nose, with colourful flames running down the aircraft's fuselage towards the tail.



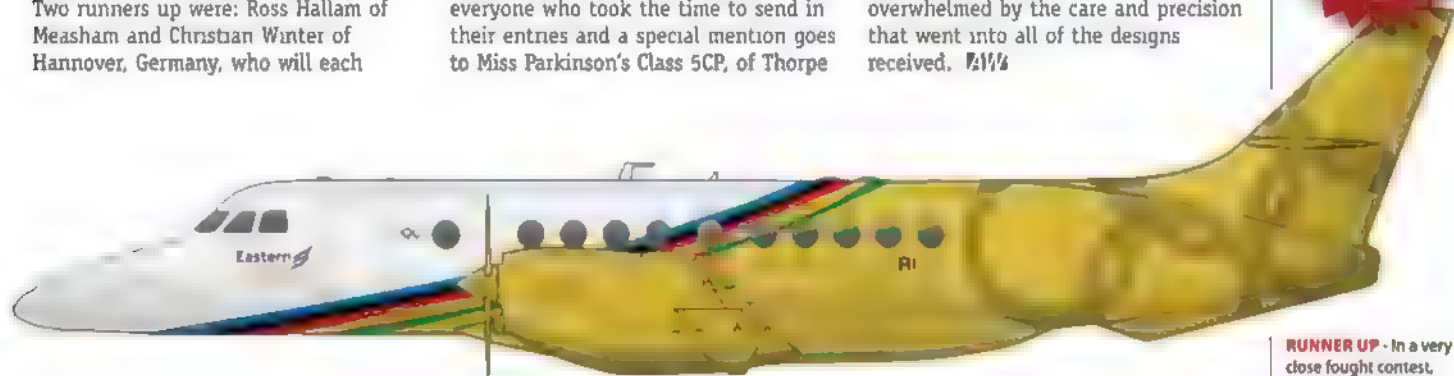
Competition - The Results

After long deliberation by the competition judges, an illustration by Joseph Gerrard of Liverpool won first prize and he will receive a specially commissioned framed print of his entry. Two runners up were: Ross Hallam of Measham and Christian Winter of Hannover, Germany, who will each

receive a one-year subscription to *Airliner World*. A selection of images that made the judge's final shortlist are reproduced on the following pages. The editorial team would like to thank everyone who took the time to send in their entries and a special mention goes to Miss Parkinson's Class 5CP, of Thorpe

Hall Primary School in Walthamstow, London, who sent in some fantastic pictures as part of their June half-term homework project on the London 2012 Olympics. We were amazed and overwhelmed by the care and precision that went into all of the designs received. **1/1/12**

RUNNER UP

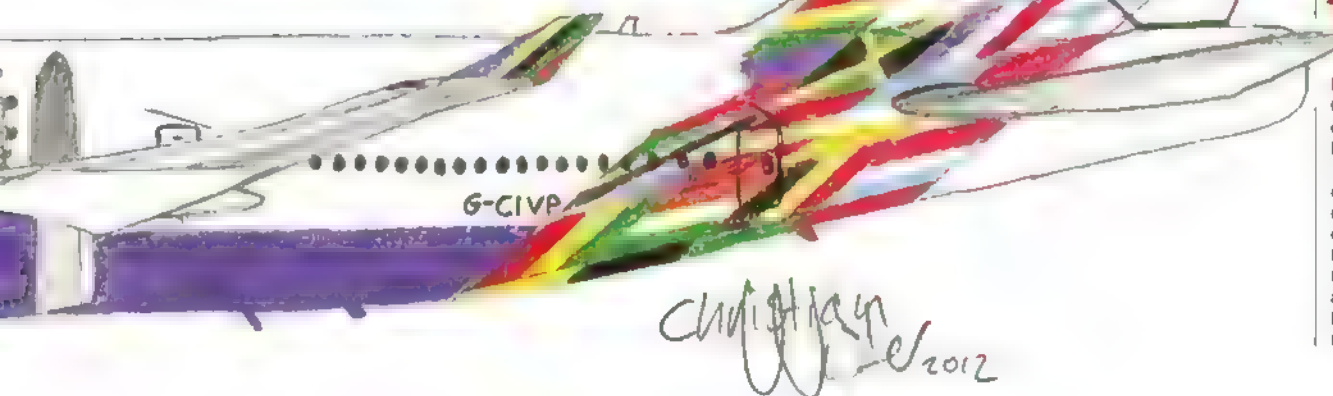


RUNNER UP - In a very close fought contest, Ross Hallam's 'Golden Jetstream 41' of British regional carrier Eastern Airline was just pipped to the winner's post.



Left - The judges were really impressed by the innovative use of colour in this entry from Sarah Watson, who is only three and half years old.

RUNNER UP



RUNNER UP Christian Winter's entry of British Airways' Boeing 747-436, G-CIVP Olympic Bird, really caught the judge's eye, especially the clever use of competing nations' flags running down the tail of the aircraft and the iconic London Images reproduced on the fuselage side.

Christian Winter
2012



Amy Matthews combines an overall red livery with the five colours of the Olympic rings to good effect in this design.



Scott Leazenby of San Diego, California has adorned the fuselage of a British Airways Douglas DC-10-30 with a world map and official 2012 Olympic logo combination.



airline www.airlinesimulation.com

www.airlinesimulation.com GPO Box 1361 Sydney 2001 Australia



Aeroflight Services LLC
GLOBAL AIRCRAFT FERRY

Commercial Aircraft Ferry





- ◆ Planning
 - Overflight & Navigation Fees
 - Permits
 - Flight Plans
- ◆ Flight Crew
- ◆ Customs
- ◆ Fuel
- ◆ Ground Handling
- ◆ Real Time Tracking of Your Aircraft on Your PC or iPad
- ◆ Turnkey or Customized Services Offered

+1.303.827.0111 USA
13659 E. 104th Avenue, Ste. 100 • Commerce City, CO 80022
www.aeroflightservices.us • info@aeroflightservices.us

Airliner World

RE-PRINTS

Custom re-prints of features available for use as:

- Press Pack Inserts
- Sales Promotions
- Company Reports and more...

Tailored to your specific needs, re-prints can showcase your company, products or services in association with the leading civil aviation magazine

For further information call Andy Mason:
Tel. +44 (0) 1780 755131
E-mail: andy.mason@keypublishing.com



we've put the 't' back into time!




Next Generation ConsumableCare
total solution

Specialists in Tailor Made Turn Key Consumable solutions

+44-1425 652200 | solutions@pdq-airspares.co.uk | www.pdq-airspares.co.uk

Entry • Philip Tan, from Singapore, submitted this unusual take on United Airlines' new livery. This Boeing 737-800 is promoting the 2012 London Paralympic Games.



Artist • Jim Bola produced this entry of a British Airways Airbus A380 which he has called 'Never stop chasing your dreams'. The design is based on the classic children's story of the Tortoise and the Hare, both of which feature on the aircraft's fuselage.



Oleg Prąglowski from Calgary, Canada has cleverly used flight simulation software to showcase his colourful design on a British Airways Boeing 787 Dreamliner.



Entry • This stylish Airbus A319 was submitted by Glen Di Giovanni, and features an intricate '2012' design which cleverly features the use of metallic paints for an attractive finish.



OPTIMISE YOUR OPERATIONS

The Latest Technology, Environmentally
Friendly Products and Processes
NOW Available in Central Europe



Air Livery is pleased to announce the latest addition to their international paint facilities with a new state of the art aircraft refinishing centre at Bratislava Airport, Slovakia.

The location of this new centre has been selected specifically to respond to our customers' needs in order to reduce their aircraft refinishing costs. Bratislava's Central European location, especially the proximity to Vienna International airport, provides a huge advantage to our clients, keeping ferry flights and repositioning costs to a minimum.

With capabilities up to B737-900 & A321, our new facility offers the latest application equipment with full extraction and climate control providing excellent conditions for aircraft refinishing. Along with our ISO 14001:2004, Environmental and Health & Safety standards (ISO 9001:2008, ISO 14001:2004 and IATA 18001:2007) this will enable us to provide our clients with the perfect end result.

OPERATIONAL - SEPTEMBER 2012

The Bratislava facility will enable Air Livery to continue to deliver a high quality end product, total flexibility with minimum downtime and provide a cost effective solution for all of our clients.

AIR LIVERY
quality first in aircraft repainting

Tel: +44 (0) 1603 415612

fo@airlivery.com Website: www.airlivery.com

OUR EXPERIENCE SHOWS IN EVERYTHING WE DO



Airshow Extravaganza

Saab S100D Argus airborne early warning aircraft, 100004 (c/n 340B 395), is equipped with an Ericsson Erieye radar antenna fitted above the fuselage.

Key - Tony Dixon



The annual airshow season is upon us and there have been some very interesting visitors to UK shores this summer. Here is a selection of just a few that have appeared at and the in July.

The Royal Norwegian Air Force operates a pair of modified Dassault Falcon 20ECMs in the electronic warfare training role. This example, 053 (c/n 53) named 'Munin', is operated by 717 Squadron based at Rygge.

Key - Craig West



Making a rare appearance in a flying display was Boeing RC-135V Rivet Joint, 64-14841 (c/n 18781) from the United States Air Force. Similar aircraft are being acquired by the RAF as replacements for the Hawker Siddeley Nimrod R1s that were retired last year.

Key - Craig West





Resplendent in the red and yellow livery of DHL Air, Boeing 767-3JHF, G-DHLF (c/n 37806), makes an impressive topside pass at the Royal International Air Tattoo. The company also had one of its 757-236SFs, G-BMRH (c/n 24266), available for closer inspection in the static display. (Key: Barry Woods-Turner)



The former British Aerospace 146-300 prototype, G-LUXE (c/n E3001) has been converted into an atmospheric research aircraft for the Facility for Airborne Atmospheric Measurements (FAAM) at Cranfield, Bedfordshire. (Key: BAA)



Above left - This was the first ever visit to the UK by a Boeing E-7ES Wedgetail, the airborne early warning and control (AEW&C) system that encompasses both the 737-700 aircraft platform and a variety of aircraft control and advanced radar systems. This example, A30-005 (c/n 33986) belonged to No. 2 Squadron of the Royal Australian Air Force, based at RAF Williamtown, New South Wales. (Key: Adrian Warner)

This Colombian Air Force Lockheed C-130H Hercules, FAC1004 (c/n 382-4964), was a colourful static display aircraft at both the RIAT and Farnborough International shows. (Key - Craig West)



The first time a Japanese military Boeing 767 has ever touched down on UK soil occurred when KC-767J, 07-3604 (c/n 34498) was displayed at RIAT. The tanker aircraft came from 404 Hikotai Squadron of the Japan Air Self Defence Force, Komaki Air Base, Nagoya. (Key - Craig West)

BODØ

Norway's Arctic Hub



Sebastian Schmitz travels beyond the Arctic Circle to visit Bodø, the most important transport hub in northern Norway.

At a glance • The semi-circular design of Bodø Airport's terminal building is said to symbolise the midsummer sun.

West Air Europe has a British Aerospace ATP based in Bodø to operate the mail service to Oslo. It is the only cargo carrier to serve the airport.

The northern Norwegian city of Bodø, located just inside the Arctic Circle, is one of the biggest in the region and capital of the Nordland province. It's also an important transport hub – home to the northern terminus of the country's railway system, a port of call for the mail ships operated by Hurtigruten and a vital aviation hub for Arctic Norway.

Strategic Location

Bodø Airport can trace its history back to World War Two when the first makeshift runway was built by British troops following Germany's invasion of southern Norway. Prior to this, the only aircraft to serve the city were seaplanes operated by Norwegian airline Widerøe.

The airfield was opened by the Royal Air Force in May 1940 though its presence was short-lived – the strip was bombed by the Luftwaffe before German ground forces seized control. However, the occupation brought certain benefits: the temporary runway was replaced by a





concrete one, while hangars and office buildings were also added.

Following the end of hostilities, the airport lay dormant for several years but was revived, with support from the US 'Major Defense Acquisition Program', during the early 1950s. The reason was simple – Bodø is strategically located relatively close to the Russian border and during the 'Cold War', a strong military presence in northern Norway was considered crucial by NATO.

Though largely a military facility, the airfield was also used for commercial purposes and a passenger terminal was completed in April 1952. Traffic continued to grow and facility struggled to cope with the increased demand, particularly during peak times – and in 1988 work began on a replacement. By 2011, the airport was handling over 1.7 million passengers and this, coupled with 43,500 civil movements (and a

further 11,000 from military aircraft), has established Bodø as the busiest airport in the region.

A City on its Doorstep

Bodø is arguably one of the most conveniently located airports in the world, with the terminal building barely a ten-minute walk, and an even shorter bus or taxi ride, from the city centre. The facility, which was completed in 1990, is built in a semi-circular pattern said to symbolise the midsummer sun. It's very open and

Bodø is operated by state-owned Avinor in co-operation with the armed forces and markets itself as 'a silent airport' – unlike most others, the terminal is not subjected to constant announcements, the only exception being boarding calls at each gate.

Outbound passengers are routed to the first floor where they pass through a very efficient security checkpoint

The terminal building, which handled 1.7 million passengers last year, was completed in 1990.

FOR THOSE ARRIVING IN BODØ FOR THE FIRST TIME, IT'S IMMEDIATELY APPARENT THAT IT IS NOT YOUR AVERAGE CIVILIAN AIRPORT.

has a pleasant ambience with heavy glazing in the main hall and part of the ceiling allowing in lots of natural light. Passengers are welcomed into the triangular foyer by a Supermarine Spitfire which hangs from the ceiling, while the remainder of the hall is taken up by check-in counters, self check-in machines and airline ticket offices.

Widerøe maintain a vital link between Bodø and some of the smaller surrounding communities.

Widerøe



BODØ LUFTHAVN

ICAO: ENBO
IATA: BOD
Location: 66°16'09" N 14°21'55" E
Elevation: 42ft (13m)
Runways: 07/25 11,136ft (3,394m)
Website: <http://www.avinor.no/en/airport/bodo>



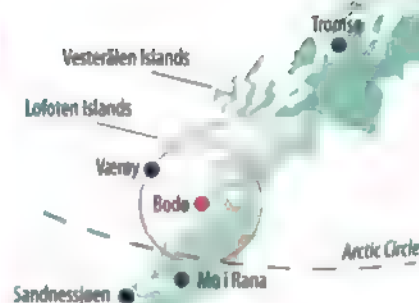
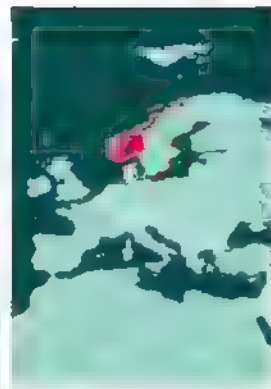
Visitors to Bodo Airport are given a warm welcome in both Norwegian and English.



Passengers entering the main terminal foyer are greeted by a Supermarine Spitfire which hangs from the ceiling. (All photographs are the author's)

Bodø is predominantly served by three airlines: Norwegian, Widerøe and SAS Scandinavian Airlines. The latter is the biggest in terms of passengers carried, with its Boeing 737s operating flights to the capital, Oslo, up to seven times daily; a further five rotations are flown to Trondheim and the region's second major airport, Tromsø. The network served by the Scandinavian national carrier is complemented by locally-based regional airline Widerøe. This wholly-owned SAS subsidiary flies to many of the small towns which surround Bodø such as Svolvær and Leknes, along with the outlying Lofoten and Vesterålen islands. The air links are considered essential by these small and remote communities, with the majority being flown under subsidised Public Service Obligations (PSO). Widerøe almost lost its Lofoten Islands contract to rival carrier Danish Air Transport earlier this year, though transfer to the new airline was delayed initially due to operational problems, while a subsequent appeal led

Widerøe is Bodø's largest operator, flying a mixture of scheduled services and Public Service Obligation (PSO) routes. It is not uncommon to see several of its aircraft on the ground at the same time.



BODØ - CURRENT OPERATORS	
Austrian Airlines*	
Freebird Airlines*	
Lufthansa	
Norwegian	
SAS Scandinavian Airlines	
Thomas Cook Airlines Scandinavia*	
Widerøe	
*Seasonal only	

to the decision being overturned.

Like its parent carrier, Widerøe also serves the busy routes to Trondheim and Tromsø but it does not fly direct and will often make one or two stops to smaller towns such as Sandnessjøen and Mo i Rana en route. The airline operates an all-Bombardier fleet, with the majority of its Bodø routes flown by its 20 Dash 8-100; the carrier's larger Dash 8-300s and Q400s rarely frequent the northern Norwegian hub and visits are generally in connection with an overhaul at

Widerøe's principal maintenance base. However, the operator does occasionally employ 78-seat Q400s on its seasonal services to Bergen and Sandnessjøen.

The third airline to operate from Bodø is Norwegian, the country's fastest growing low-cost carrier. Significantly, it also flies on the trunk routes to Oslo, Tromsø and Trondheim in direct competition with both SAS and Widerøe. However, it operates to points further afield and was the first ever airline to offer a scheduled international service from here when it launched its weekly 737-800 flight to Gran Canaria.

The airport also benefits from seasonal charter services to leisure destinations around the Mediterranean - Freebird operates to Turkey twice weekly with its Airbus A320s while the Greek island of Crete is served by both Norwegian >>





and into the departure lounge which contains most of the airport's eleven gates; two are located on the ground floor and have a separate security area.

The first floor also houses the 'Picnic' restaurant which is located landside and accessible by all visitors. Post-security facilities are limited to a small kiosk which sells drinks, snacks and reading material. Free wireless Internet is available throughout the terminal, an increasingly common feature in airports around the world.

The semi-circular design of the airport lends itself to a very convenient boarding system. Three gates are equipped with jetways for use by larger aircraft such as the Boeing 737 operated into Bodø by both Norwegian and SAS Scandinavian Airlines several times daily. Meanwhile, the far more frequent Bombardier Dash 8s of Widerøe use a different type of departure gate where passengers are separated from the aircraft by just a flight of stairs and a few steps outside. The layout allows

Lufttransport operates a specially modified Beech 200 King Air, LN-LTL (c/n BB 2005), from Bodø in the air ambulance role.

Norwegian flies from Bodø to Oslo, Tromsø and Trondheim in direct competition with SAS and Widerøe. It was, however, the first carrier to launch scheduled international services when it introduced flights to Gran Canaria.

boarding by foot, eliminating the need for bus transfers and also reducing the amount of time travellers have to spend out in the open air, a useful feature particularly during the winter months when weather conditions are often very cold and windy.

The majority of the flights serving Bodø are domestic or are from within the borderless Schengen Area, meaning that passport control is not required. However, the airport also handles international services such as seasonal charters to Turkey – in these instances, one departure gate, which includes a control post, can be separated from the rest of the lounge through the use of glass panels, allowing segregation for non-Schengen passengers.

The process for arriving passengers is even simpler with an escalator transporting them into the main hall where luggage can be picked up. The airport's proximity to the town encourages many of those travellers to walk home from the airport, though

taxi and buses are available.

The terminal is expected to benefit from a refurbishment programme later this year: the two gates on the ground floor will be linked to the main departure hall, meaning that the three separate security checkpoints can be replaced by a single, centralised inspection area. A tourist information office is expected to be built for arriving passengers while the 'Picnic' restaurant will be moved airside, though other facilities will be added for non-travellers.

Routes and airlines

During 2011, the airport handled over 1.7 million passengers, representing an increase of 7.7% over the previous year. Of these, almost 425,000 used Bodø as a point of transfer, underlining its importance not only as a point-to-point destination but also as a connecting gateway. Its performance last year places the airport as the sixth-busiest in Norway with the region's other major airport, Tromsø, close behind.

"TODAY, BODØ'S SINGLE RUNWAY 07/25 PROVIDES A BARRIER BETWEEN THE COMMERCIAL AND MILITARY ACTIVITIES."



An Aviation Haven

of Henriksen are...
...ular, propeller-shaped...
...Aviation Museum (Norw...
...into distinct military...
...his include a Junkers...
...Canada Twin Otter...
...in Widerøe livery, a former Braathens SAFE Fokker...
...28-1000 and a Lockheed U-2, one of only two...
...plete examples on display outside the US. Visitors...
...can also access a small control tower located on...
...of the museum which offers excellent views...

While the museum provides a good reason for aviation enthusiasts to visit Norway, Bodø also hosts its own airshow, one of the biggest in northern Europe. This year's event, which was held in July-June, commemorated the 60th anniversary of the air force base, 70 years of locally-based 331 and 332 Squadrons and a century of military aviation in Norway. Highlights included 16 hours of displays by aircraft including aerobatic teams Italy, Switzerland, the Flying Bulls Douglas DC-6 and Norway's DC-3. An unusual feature of the show is the small flying display held during the 'lonely sun rock concert'.



and SAS. The facility also welcomes incoming tourists, with Austria Airlines' connection from Vienna proving popular.

The air freight sector at Bodø is small with the only regular carrier being West Air Europe, which operates Norway Post's week-daily mail flight to Oslo. However, the difficult terrain and remote communities which surround the city mean that northern Norway's largest hub attracts some of the country's more unusual operators - Lufttransport's AgustaWestland AW139 helicopters serve the island of Vaeroy with a twice-daily service. Meanwhile, with Bodø's medical facilities being significantly better than those in smaller, outlying towns, the airport is a regular port of call for rescue aircraft, and a specially-equipped Beech 200A Air Ambulance is based locally.

A Different Challenge

Airport Operations Manager Roger Henriksen explained that the weather can often be very challenging, particularly during the winter months. Like most facilities in Scandinavia, Bodø is well prepared and is very experienced in dealing with snow and icy conditions - in fact, it has never been closed for snow removal for more than a few minutes. But the exposed location of the airport on the north-western coast means that strong and gusting winds can pose a major hazard. Henriksen noted that, depending upon the wind direction, Widerøe is often forced to park its small Dash 8 turboprops in the lee of the terminal building to protect both passengers and aircraft from harsh conditions.

Military Heritage

For those arriving in Bodø for the first time, it's immediately apparent that it is not your average civilian airport. In fact, Bodø Main Air Station is the largest base in the Royal Norwegian Air Force and home to two fighter squadrons, which operate around half of the air arm's Lockheed Martin F-16s.

Though now long gone, the US Air Force also maintained a presence at Bodø, it being an ideal launching point for surveillance missions over the Soviet Union. It was here that Central Intelligence Agency (CIA) pilot Gary Powers was due to land his Lockheed U-2 spy plane on May 1, 1960; but he was shot down over the USSR, causing an international incident. The supersonic SR-71 Blackbird was also a frequent visitor during the 'Cold War', the airfield's 11,136ft (3,394m) long runway making it an ideal emergency landing site - in fact one jet received special 'Bodonian Express' titles after making five such landings here between 1981 and 1985. The facility is also capable of handling much larger aircraft and, in 1975, played host to an Aerospatiale/BAC Concorde during a series of test flights. Interestingly, Dubai-based carrier Emirates recently visited the site to examine its suitability as an emergency alternate landing site for its transatlantic Airbus A380 Superjumbo flights.

Today, Bodø's single Runway 07/25 provides a barrier between the commercial and military activities, though 72 hardened air shelters continue to stand all around the airfield including on the civil side.

The airport is very convenient for passengers and, thanks to its spectacular location and unusual heritage, is also an interesting alternative for aviation enthusiasts. **21/14**

"BODØ IS ARGUABLY ONE OF THE MOST CONVENIENTLY LOCATED AIRPORTS IN THE WORLD..."

Located on the north-western coast of Norway, the scenery surrounding Bodø Airport is truly spectacular.



Classics

*Successful
Business let*

FLYING IN CONCORDE

**JUST
£4.99!**

**BRITISH
EAGLE**
Major UK Campaign

MANCHESTER AIRPORT
Develop
Hub

An
Airliner
Special

Brought to you by the industry-renowned team behind Airliner World, Airliner Classics 4 turns the clock back once again to bring you the aircraft, airlines, airports and personalities making headlines in the classic years of aviation over 100 high-quality pages.

Features include:

BRITISH EAGLE

BOEING 737 CLASSICS

FLYING IN CONCORDE _____
 amount of suit _____

BRANIFF INTERNATIONAL AIRWAYS —
The colourful US carrier
launched its 'End of the Line' *ad*
marketing campaign in the

AND MUCH MORE!



WHSmith

一、《说文解字》：中国第一部系统分析字形、考究字源的字书。



Country	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Japan	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0
Germany	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0
France	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
Italy	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
Spain	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
Sweden	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0
Belgium	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
United Kingdom	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0
United States	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
Canada	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
China	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0
India	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
South Africa	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0
South Korea	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
Poland	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
Ukraine	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
Russia	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
China (excl. HK)	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
China (incl. HK)	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
China (excl. HK) (excl. Tibet)	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
China (incl. HK) (excl. Tibet)	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
China (incl. HK) (incl. Tibet)	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0
China (excl. HK) (incl. Tibet)	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0
China (incl. HK) (incl. Tibet)	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0
China (excl. HK) (excl. Tibet) (excl. Xinjiang)	33.0	33.5	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0
China (incl. HK) (excl. Tibet) (excl. Xinjiang)	34.0	34.5	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0
China (incl. HK) (incl. Tibet) (excl. Xinjiang)	35.0	35.5	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0
China (incl. HK) (incl. Tibet) (incl. Xinjiang)	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0
China (excl. HK) (incl. Tibet) (incl. Xinjiang)	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5	42.0
China (incl. HK) (incl. Tibet) (incl. Xinjiang)	38.0	38.5	39.0	39.5	40.0	40.5	41.0	41.5			

[illegible]



SEPTEMBER 2012

Boeing 757-2K2,
NZ7571 (c/n 26633)
appeared at the
Waddington Air Show
wearing these special
markings celebrating
the 75th anniversary of
the Royal New Zealand
Air Force. The aircraft
was visiting the UK
with a delegation of 32
veterans who attended
the unveiling of the
Bomber Command
Memorial in London on
June 28.

Photo: Roy Craig West





Airliner World

Your favourite magazine now on the iPhone, iPad and Android.

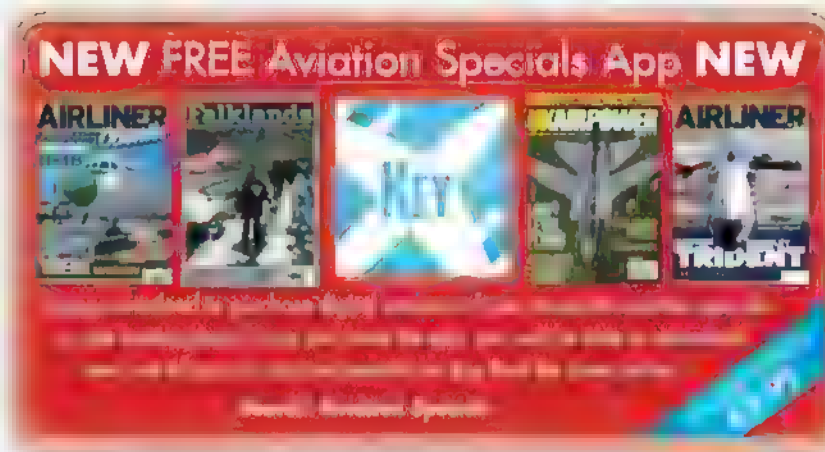
Download now.

Available from iTunes, Google Play and the App Store.



Search: Airliner World

Also available for download



How it Works.

Don't forget

ALSO AVAILABLE FROM POCKET MAGS



pocketmags.com

**ANDROID
AVAILABLE
NOW!**

Málaga Aviation Museum

The 'Costa del Sol's' little-known jewel



Spain's National Museum of Airports and Air Transportation, located at the southern end of the Málaga Airport complex, is well worth a holiday visit. [Find out more](#)

The National Museum of Airports and Air Transportation next to Málaga's Airport is a well-run and growing treat for the aviation enthusiast and tourist alike. It is situated inside a restored 1938 hacienda-style airport terminal, with its Air Traffic Control Tower and surrounding buildings instantly transporting visitors back in time to the glory days of civil aviation travel. In the rear of the site there is a bigger, modern building housing the smaller aircraft in the collection, as well as airport- and aircraft-related displays and equipment.

Within the grounds there is a large number of retired airport vehicles and the transport aircraft. The latter include



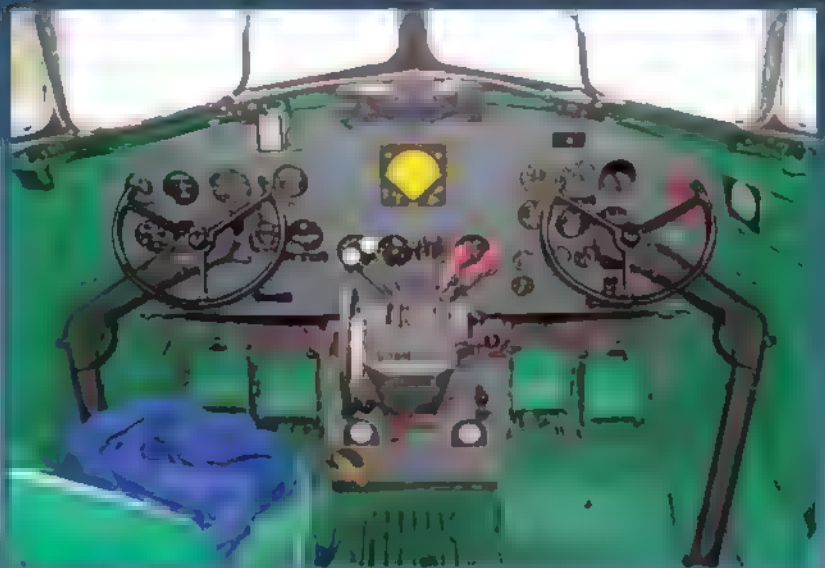
a Douglas DC-3 (C-47B) in Iberia colours, a Beech 18 in Spantax livery, a superb Convair CV-440 in the markings of Kar Air of Finland, a de Havilland DH104 Dove of Martin's Air Charter of Holland, and the front fuselage section of an Iberia DC-9-30.



There is heavy emphasis on education, with visitors able to enjoy interactive displays, and other exhibits tailored to the younger and older student alike. School parties can be given a history lesson of not just the airport and aviation in Málaga, but about Spain as a whole. From dedicated aviation historians and enthusiasts to casual visitors – everyone will find there is plenty of interest. The exhibits within the museum are well thought out, with a large collection of model aircraft and uniforms.

Restoration work continues on the flight deck of Douglas DC-3, EC-ABC. The museum is keen to hear from any companies, airlines, museums or individuals who can assist with equipment or materials for the project.

The museum is open from 10am to 6pm, 7 days a week. Admission is free, but donations are welcome. The museum is located at the airport, and is easily accessible by car or public transport.



Photography Information

The aviation photographer will find the holding area and the end of the main runway is within a 200mm to 300mm lens range for airliners – smaller aircraft landing etc will need a larger lens. However, you should be aware that:

- There is no shade and the sun can be strong even in winter, so some form of personal sun protection is recommended
- Heat haze – even on the cooler days, this can be a problem
- During the afternoon, pictures are taken into the sun. This is only a problem in winter as in the summer the sun is very high in the sky.
- Although visitors are in an official viewing spot where photography is allowed, there are a number of VIP and military movements at Málaga, the authorities and Civil Guard are always in attendance, so a common sense approach is advised when taking photographs!



Aircraft at the main airport are easily photographed, such as this easyJet Airbus A319-111, G-EZBA (c/n 2860).





supported by the Spanish Airport Authority AENA (perhaps other airport operators could take note), and, as part of the facility there is a dedicated viewing area for the main airport – Spain's fourth busiest international hub – with good





views of the extensive general aviation ramp, taxiways, and runway beyond.

Remember when you have had enough of aviation, there is always sun, sea, sand and large local brewery that this area is famous for – so this author knows where he'll be heading for his next holiday! ☺☺☺

The author would like to thank museum manager Joaquín de Carranza

Paris, as well as the staff and volunteers of the museum for their time and patience over several visits.

Superbly restored Convair CV-440-75, OH-VKN (c/n 503), in the colours of Finnish carrier Kar Air.

A good view can be had from the original control tower over the large general aviation ramp and the landing runway beyond.

Many of the smaller exhibits are displayed 'stripped down' for educational purposes.



FULL AIRCRAFT LIST:

Type	Reg'n	C/N	Markings
Air Creation			(microlight)
Beech E185	EC ASJ	BA 6	Spantax
Bell 47G 3B	EC DZL	1613	(under restoration)
LET Super Aero 145	EC APH	04 005	(stored)
CASA CN235 200	EC FBC	C033	Binter (tail only)
Convair CV 440	OH VKN	503	Kar Air
de Havilland DH104 Dove	PH VLA	04534	Martin's Air Charter
Dornier Do-27B	EC CFS	193	(under restoration)
Douglas DC-3 (C-47B)	EC ABC	17094, 34361	beria (under restoration)
Douglas DC-9-32	EC-CGO	47640	beria (front fuselage)
Wassmer WA-40 Super IV	OO GRH	102	(under restoration)
Outside main airport buildings			
Cessna 421B Golden Eagle	EC FPA	0530	

Bombardier's Game Changer

Craig West visits Montreal to report on the progress of Bombardier's next-generation narrowbody jet, the CSeries.


Development of the CSeries has been somewhat arduous since it was first proposed during the late 1990s. After several false starts, the CSeries, so named because the key elements of its design included cost, customers and capacity, was officially launched at the 2008 Farnborough International Airshow. Significantly, the aircraft would lead the manufacturer into direct competition with the two powerhouses of narrowbody aircraft production: Airbus and Boeing.

Concept

The CSeries, which is funded by Bombardier, third party suppliers and the Governments of Quebec, Canada and the UK, represents a significant departure for a manufacturer that built its reputation around regional turboprop and jet aircraft. The Canadian firm is developing two models simultaneously – the CS100 and larger CS300, offering seating for 120 to 145 passengers. The aircraft, which are both powered by Pratt & Whitney's (P&W) PW1000G Geared Turbofan engine, share a 90% commonality allowing

customers to switch their orders between the two models up to the final production stage. Like both the new-generation 787 Dreamliner and A350, the Canadian-built airliner is designed around fuel-efficient engines and a largely composite fuselage with carbon emissions expected to be up to 20% lower than other in-production aircraft; this figure rises to 50% when compared to out-of-production types.

Close liaison with customers formed a key part of the new jet's development. Captain Peter Koch from Swiss



Korean Air is one of several mainline carriers who have ordered the CS300. The jet is expected to be a natural complement to its larger Boeing 737s.

OFFICIAL AIRSHOW DVD

Greatest Airshow on Earth!

Farnborough
INTERNATIONAL
AIRSHOW



Welcome to the Official Farnborough International Airshow 2012 DVD. This year's event was spectacular in the air and amazing on the ground!

Once again, the world's most prestigious air and trade show featured a host of fast jets, military giants, historic aircraft and aerobatic display teams.

Starring in this year's programme was an amazing military line-up featuring the Yak-130, Boeing's F-18 Super Hornet, the US Marine Corps V-22 Osprey, South Korean T-50 Jet Trainer and the RAF's Tornado and Typhoon.

Other highlights included Vulcan XH558, The Red Arrows, The Breitling Jet Team, The Breitling Wing Walkers, The Blades, The Battle of Britain Memorial Flight and a rare flypast by the B-52.

The static display coverage features the first 'space-liner' from Virgin Galactic, the Qatar Airways 787 Dreamliner and aviation classics such as the Antonov An-2.

Plus fascinating behind the scenes footage and interviews and much, much more of the greatest airshow on earth.

Pre-order your copy now!

Just £12.99 with FREE P&P[†]

ORDER DIRECT

Delivery from 22 August



Order online at
www.keypublishing.com/shop

or



Call 01780 480404 UK or
+44 1780 480 404 Overseas
Lines open 9:00am - 5:30pm GMT

[†]Pre-order price available until 22 August 2012. Delivery from 22 August 2012. FREE P&P UK and BFPO only on orders up to £19.99, EU £1.99, USA £2.99, ROW £3.99. Cover and contents subject to change.



"WITH PLANS TO FLY THE FIRST PROTOTYPE BY THE END OF THIS YEAR, TIME IS RUNNING SHORT FOR BOMBARDIER."



European Air Lines, one of the type's early customers, was consulted on the final flight deck layout, with Bombardier designing the cockpit to be logical and intuitive. In place of conventional control yokes are Airbus-style sidesticks while the panel features five, 15.1in (38.4cm) LCD display screens which include an integrated flight management system, advanced weather radar and electronic checklist. A head-up guidance system can be fitted as an optional extra.

The CSeries is also Bombardier's first production aircraft to feature advanced fly-by-wire. Developed by Parker Hannifin Corp and Rockwell Collins, work first began on the system in the late 1990s but, at the time of writing, the digital controls, which offer a significant

Bombardier liaised closely with customers, including Swiss European Air Lines, over the layout of the flight deck, with the manufacturer claiming it has been designed to be logical and intuitive for crews.

Review • Bombardier is offering the CSeries in a spacious four abreast in Business class, five abreast in Economy configuration.

weight reduction over conventional hydraulic controls and are cheaper to maintain, are currently the biggest risk to the success of the programme.

Ben Boehm, Bombardier's Vice President business development and strategy

"ONCE DELIVERIES ARE UNDERWAY, BOMBARDIER HAS EXPRESSED ITS DESIRE TO INCREASE PRODUCTION TO 100 AIRCRAFT PER YEAR."

commercial aircraft, explained that the company has signed up to risk-sharing arrangements with its suppliers and has delegated design responsibility for key components. The Canadian manufacturer does not, for example, own the design authority for the Liebherr Aerospace-produced landing gear, but it does own the interface – how the landing gear works and fits within the aircraft. In other instances, components such as the wings are produced within the company but away from the CSeries production facility at Montréal/Mirabel. "Belfast [Northern Ireland] is the lead integrator for all wing systems so when a wing unit arrives in Canada, it is stuffed [with

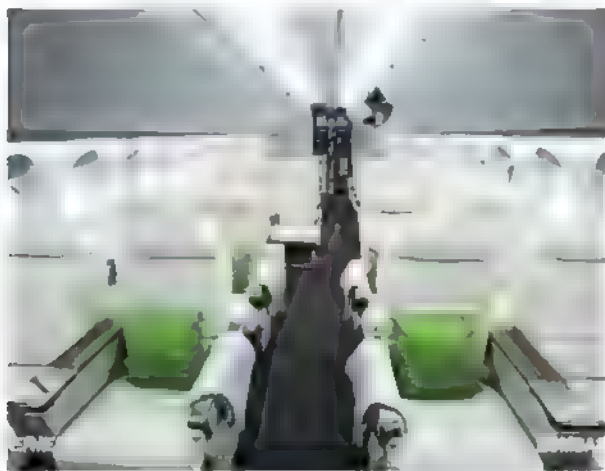
various components], tested and ready to plug and play," Boehm remarked.

This integrated supply chain is a tried and tested system for the Canadian manufacturer, which has used this arrangement since the early 1990s. Like Boeing, Bombardier's first experience with this system was problematic, with its Global Express business jet being delayed by two years. However, several new designs have been introduced since then. Boehm commented: "We have built more aircraft using an integrated supply chain than both Airbus and Boeing. There are companies around the world that are experts in their respective fields. We cannot be experts in every element, so we use these specialist suppliers. We are, however, experts in integration."

Despite its recent success, Bombardier has run into difficulties with the CSeries and recently announced that it was temporarily relocating development and production of the forward, centre and rear fuselage sections, tail cone and centre wing box from its Chinese partner Shenyang Aircraft Corporation to Mirabel.

Building for the Future

Though concerns remain around whether the CSeries will complete its first flight by the manufacturer's end of year deadline, construction of major components for the first seven airframes, consisting of five flight test vehicles (FTV) and two static test rigs, is well under way.





Bombardier's 1 million sq ft (92,903m²) facility at Saint-Laurent, Montréal, is building the carbon-fibre aft fuselage and cockpit sections ready for shipping to the final assembly line at nearby Mirabel. The manufacturer was unable to expand the 70-year-old site, former home of Bombardier's predecessor Canadair, so upgraded more than 100,000sq ft (9,000m²) of the plant to support production of major components for the new CSeries. The assembly process includes a fully automated moving line using the latest lean manufacturing principles, while machinery, equipment and tooling have all been updated.

As part of its drive to reduce the weight of its new model, Bombardier has built on its experience in composites technology and is using automated fibre

placement (AFP) techniques to build the carbon-fibre composite aft fuselage. A computer-controlled robot deposits the fibre in 4in (10cm) strips across a metal skeleton before the entire component goes through a cold cure process, effectively welding the layers together. The robot can apply the carbon fibre in any direction, allowing the manufacture to be very precise when applying reinforcement panels, reducing the amount of material used and, in turn, the weight. This procedure currently takes several days, though Bombardier is optimistic that this will be reduced significantly as the process is refined.

Unusually, the manufacturer does not use overhead cranes. Instead, it relies heavily on robots, with over 93% of all fastenings automated to



CSERIES SPECIFICATIONS

	CS100	CS300
Fastenings	110 Standard	130 Standard
	125 Max Capacity	145 Max Capacity
Height class		2
Length	118ft 10in (36.2m)	124ft 10in (38m)
Wingspan	115ft 4in (35.2m)	115ft 4in (35.1m)
Fuselage width	10ft 9in (3.3m)	10ft 9in (3.3m)
Maximum take-off weight	139,600lb (63,322kg)	139,600lb (63,322kg)
Max range	3,395 miles (5,463km)	3,395 miles (5,463km)
Max cruise speed	470kt (871km/h)	470kt (871km/h)
Service ceiling	41,000ft (12,497m)	41,000ft (12,497m)
Engines	2 x Pratt & Whitney PW1500G	2 x Pratt & Whitney PW1500G
Passenger capacity	125-145	130-145

ensure uniformity. The nose sections move through several positions during production, including being rolled vertically to aid installation of the floor panels and to provide access to the upper fuselage. The sections are then 'stuffed' before being shipped for final assembly.

In preparation for the CSeries, Bombardier has invested heavily in its Mirabel plant, located 25 miles (40km) west of Montreal. Until recently, the facility was home to the CRJ production line but, in order to accommodate the much larger aircraft, the site will undergo significant expansion. Bombardier will add a further 1.2 million sq ft of buildings (111,500m²) including a new final assembly facility, delivery centre, paint shop and administrative offices.

The Canadian manufacturer hopes to have FTV1, the first CS100 prototype, assembled by late 2012. The 'plug and play' nature of the components being shipped into Mirabel should ease the final assembly process, though integration of the different materials used in these parts poses a unique challenge – the CSeries includes 46% composites (nose, aft fuselage, wings and stabilisers), 32% aluminium lithium (fuselage) and 7% titanium. To get around this problem, all of the major components are mounted onto metal frames to allow easier mating and avoiding the complex aluminium to carbon-fibre bonding.

Bombardier has taken a number of steps to ensure that the programme remains on budget and on time, with one of the most unusual being the

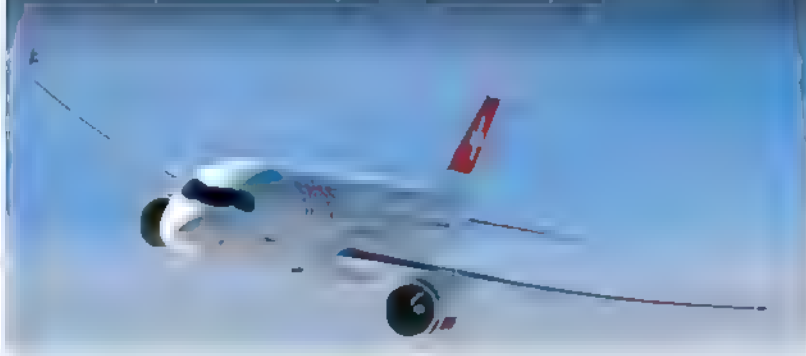
Access The nose and aft fuselage sections of the CSeries are built on a moving production line at Bombardier's Saint-Laurent facility.

Above left Bombardier has invested heavily in its Mirabel site, upgrading the former CRJ hangars to accommodate the larger CSeries aircraft.

Swiss Efficiency

Swiss European Air Lines is currently one of the largest customers for the Bombardier CSeries with Lufthansa having ordered 30 examples for its subsidiary. With rising fuel costs and increased competition from low-cost carriers, efficiency is high on the airline's agenda and it has confirmed plans to replace its 20 ageing Aérospatiale A300-600s as part of a CHF 1 billion (\$650 million) fleet renewal programme. The new generation airline will offer several advantages, including a reduction in fuel consumption of over 25% compared to the four-engine A300 – this will cut CO₂ emissions by 90,000 tonnes per year, the equivalent of 7,000 flights between Zurich and London. The state-of-the-art CS100 is also 10 to 15 decibels quieter than its predecessor but is able to operate into the same restricted airports as the Aéro aircraft, such

as London City and Lugano. The benefits of the new type also extend inside the cabin, where passengers will have more space, while lower operating costs mean that Swiss can acquire ten additional CS100s to accommodate future network growth. "The short-haul segment is a key element in our network," Swiss' Chief Network & Distribution Officer Harry Hohmeister commented. "With our choice of Bombardier's new CSeries, we are underlining the key role that we play in our operations. In today's fiercely contested air transport market, planning long-term product investments, raising efficiency companywide and continually reducing our costs can give us a vital competitive edge." Swiss is expected to be one of the early operators of the type and will receive one example per month from early 2014.



construction of the 'Wooden Bird'. It has created a full-scale wooden mock-up to uncover inevitable difficulties in the CSeries assembly process. Sebastien Mullet, director of the CSeries programme office, explained that Bombardier selected 45 experienced engineers to work on the model and identify areas of improvement: "The target for the end of 2012 is 1,000 items and, by mid-June, they had found over 600." Suggested changes revolve around the sequence of assembly, the standard of the work and the health and safety of the employees. The replica is an unprecedented measure, but suggests that company is leaving nothing to chance.

Extensive Testing

The 'Wooden Bird' is one of several mock-ups contributing to the testing process. Housed in the state-of-the-art Complete Integrated Aircraft System Test Area (CIATSA) at Mirabel is a full-scale fuselage mock up used to evaluate the Environmental Control Systems. By September, the rig will be fitted with a full cabin interior and will test the pressurisation, air conditioning, heating, lighting and cabin management systems.

Bombardier's Director of CSeries Ground Tests, Pierre Laforge, explained that these elements will eventually be installed on FTV5, the final flight test aircraft. "This is the first time we have done this – the rig doubles as a full installation so by the time we are ready to fit the systems on a real aircraft, the designs will have been refined and only minor modifications will be required. Previously, we have not tested these elements until they were installed on the aircraft, and on some occasions this has been too close to the certification and entry into service and has caused delays."

Testing is also under way on Airplane 0, also known as the 'Iron Bird'. Effectively a structureless reproduction of the CS100, the rig integrates every non-fuel system including the hydraulics, avionics, electrics and primary flight controls, accounting for around 85% of the aircraft's systems. The frame is the most comprehensive to date and is equipped with actuators driven by a CAE flight



simulator, replicating in-service usage on the rig – Iron Bird is effectively a complete aircraft that can replace actual flight hours, shortening the test regime and acting as an additional FTV.

Bombardier is expected to use five CS100s for the one-year certification programme and will add one per month from December. Each aircraft is expected to undertake specific roles – FTV1 and 2 will be heavily instrumented and will be used for the early flight testing, 3 and 4 will perform the more routine operational testing and the final jet will have a full interior fit. Two CS300s will be added to the test fleet next year ahead of a planned entry into service of 2014.

Once deliveries are under way, Bombardier

has expressed its desire to increase production to 100 aircraft per year via a second line at Mirabel. Ben Boehm noted, however, that the manufacturer did not want to overwhelm new operators of the type, and was also keen to avoid having a large backlog of aircraft requiring modification. "Our target for ramp up is 2014 or 2015, ideally the former but simultaneously introducing two models makes this more difficult to achieve."

CSERIES ORDERS AND COMMITMENTS

Air Baltic	CS300	10
Atlasjet	CS300	15
Braathens Aviation*	CS100/300	10
Corean Air	CS300	10
Illyushin Finance	CS100/300	30
Lease Corp Int	CS100/300	20
Lufthansa**	CS100	30
PrivatAir	CS100	5
Republic Airways	CS300	40
Undisclosed	CS100	13

* For Malmo Aviation

** For Swiss European Air Lines

Airplane 0, named the 'Iron Bird', is effectively a structureless CS100 and integrates every non-fuel system. The rig can replicate in-service usage and replace actual flight hours on real aircraft.

Air Baltic - Air Baltic's commitment for 10 CS300s, announced at the 2012 Farnborough International Airshow, was a much needed boost for the CSeries programme. The first examples are due for delivery in 2015.

Below - The CSeries programme continues to gather momentum with AirAsia CEO Tony Fernandes announcing at the 2012 Farnborough International Airshow that he was in preliminary talks to acquire up to 100 CS300 jets.

Flying into Service

The CSeries programme has continued to gather momentum despite concern that production is running behind schedule. Bombardier has attracted several high profile orders including 30 aircraft from Lufthansa (for Swiss European Air Lines





- see panel), though many observers have questioned the motives behind Bombardier's entry into the 100- to 149-seat sector. The manufacturer has cited right sizing and additional frequency as a means of covering growth rather than the use of larger aircraft.

Part of the narrowbody jet's appeal is its performance; it is expected to deliver double-digit reductions against both the 737 MAX and A320neo. In the case of the latter, the A319neo is the only direct, next-generation competitor to the CSeries. "Airlines have to make a choice - if they want a 20-year-old airframe with 20-year-old technology and a new engine, then they can buy the neo.

The CSeries production process is highly automated with over 93% of the fastenings on the aircraft done by computer controlled robots.

Airbus says that Mirabel is home to three full-scale CSeries mock-ups including this example, which will be used to test the environmental control, pressurisation and lighting systems.

Bombardier is simultaneously developing the CS100 and larger CS300. The two aircraft share a 90% commonality.



Alternatively, they can take an entirely new design with the latest engines, systems and configuration that delivers a 20% saving," Boehm commented. "When we set out developing the CSeries, we were expecting to compete against a completely new design. However, this didn't happen [with both Airbus and Boeing deciding to re-engine existing models] so we are feeling very confident about attracting further orders."

The flexibility to alternate between the CS100 and CS300 has proved to be very attractive to customers who are replacing multiple aircraft types, while the ability to fly non-stop from London to New York has opened up the possibility of all-

Business class configured examples.

With plans to fly the first prototype by the end of this year, time is running short for Bombardier. The manufacturer has taken several unorthodox steps to meet its optimistic certification schedule though it has openly admitted that a three to six-month slip would be acceptable if required. The latest order from Air Baltic, announced at the Farnborough International Airshow 2012, is a much-needed boost for the programme, though if performance is as good as expected, rising fuel costs and a push for greater efficiency from airlines is almost certain to generate further customers for the CSeries. **W/4**

**"WE HAVE BUILT
MORE AIRCRAFT
USING AN
INTEGRATED SUPPLY
CHAIN THAN BOTH
AIRBUS AND BOEING."**

**Ben Boehm, Bombardier Vice President
Business Development and Strategy
Commercial Aircraft**



Farnborough International Airshow 2012 DVD



This official DVD of the 2012 Farnborough International Airshow features a stunning flying display including the Qatar Airways Boeing 787 and Malaysia Airlines' Airbus A380. Also featured is Vulcan XH588, Boeing F 18 Super Hornet, Eurofighter Typhoon, Breitling Jet Team, The Red Arrows and much, much more!

Running time TBC. Region-free DVD. Cover and contents subject to change.

*Please note: £12.99 is a special pre-order price only available until 22 August 2012

NEW ONLY £12.99

Boeing 747-8 First Flights DVD



Aviutopia takes you on an exclusive adventure to witness one of aviation's biggest events of recent times: the momentous first flights of the Boeing 747-8F and 747-8I! This Officially Licensed Boeing DVD includes interior tours of the 747-8F and 747-8I, pilot press conferences, the spectacular 747-8 rollout ceremony and the aircraft's first overseas appearances at the 2011 Paris Airshow! Region-free DVD. Running time: 60 minutes.

Code: DVD475
ONLY £12.49

Air Dolomiti ATR42, ATR72 & BAe146 DVD



Air Dolomiti, founded in 1980, is a regional airline based in Italy. The airline now operates more than 100 flights a week with a fleet of ATR 42, ATR 72 and BAe 146 aircraft. This DVD features a flight over the Alps in the cockpit of the BAe146 for 3 flights to Milan and Naples from Munich. Region-free DVD. Running time: 186 minutes.

Code: DVD429
ONLY £18.49

Airbus A380 First Delivery DVD



Join Aviutopia as they witness the first year of flight testing of the Superjumbo A380 with stops in Colombia, Thailand, Vietnam, South Korea, America, Australia, the Philippines, the United Arab Emirates, concluding with the first aircraft delivery to Singapore Airlines in October 2007. Region-free DVD. Running time: 60 minutes.

Code: DVD507
ONLY £12.49

Swiss Airbus A340-300 DVD



Just Planes are delighted to bring you this DVD featuring the Swiss Airbus A340-300. After a long flight, Aviutopia's Swiss Airbus A340-300 flies from Zurich to Geneva and you're in for a fantastic flight packed with information and pictures, and ending with a spectacular landing into San Francisco! Region-free DVD. Running time: 256 minutes.

Code: DVD506
ONLY £18.49

Vietnam Airports Spectacular DVD



Welcome to Vietnam and discover the spectacular airports of this country. This DVD features a flight over the country from Hanoi to Ho Chi Minh City (Saigon) and Da Nang. The DVD is a must-have for all fans of the first ever Airbus A380 visit to the country! Region-free DVD. Running time: 60 mins.

Code: DVD509
ONLY £12.49

Martinair MD-11 DVD



Join Aviutopia as they witness the first year of flight testing of the Martinair MD-11. This DVD features a flight over the country from Amsterdam to Palma de Mallorca. This DVD is a must-have for all fans of the first ever Airbus A380 visit to the country! Region-free DVD. Running time: 183 minutes.

Code: DVD481
ONLY £23.49

Scandinavian Airbus A330-300 DVD



Join the SAS flight crew for this DVD featuring the widebody Airbus A330-300. This programme which runs more than 4 hours long includes all the information you need about the aircraft, the airline, the crew, the passengers and much more! Region-free DVD. Running time: 247 Minutes.

Code: DVD474
ONLY £18.49

Buffalo Airways DC-4/C-46 DVD



Buffalo Airways was established over 50 years ago and is based in Newfoundland. This airline has become famous through the TV show, the books and the Air Canada documentary. This DVD features a flight over the Atlantic Ocean from St. John's to New York. This DVD is a must-have for all fans of the first ever Airbus A380 visit to the country! Region-free DVD. Running time: 246 Minutes.

Code: DVD438
ONLY £18.49

Everts Air Cargo DC-6 DVD



This programme follows Everts Air Cargo's flight from London to Amsterdam. This DVD is a must-have for all fans of the first ever Airbus A380 visit to the country! Region-free DVD. Running time: 181 Minutes.

Code: DVD445
ONLY £18.49

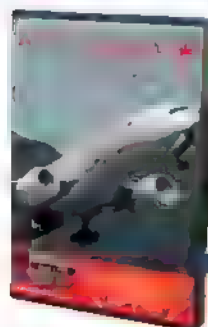
Channel Express A300F/F-27/Electra DVD



Channel Express began operations in 1985. This DVD features a flight from London to Amsterdam. This DVD is a must-have for all fans of the first ever Airbus A380 visit to the country! Region-free DVD. Running time: 120 Minutes.

Code: DVD470
ONLY £18.49

Air Canada Boeing 777-200LR DVD



Join the Air Canada crew as they fly one of the longest routes in the world. Departing from Vancouver the 777-200LR (C-FNND) embarks on this 14,000km and 49 minute long-haul flight to Sydney, Australia. We then cruise the sky for 1 hour 10 minutes to Melbourne.

Region-Free DVD
Running time: 270 Minutes.

BESTSELLER

Code: DVD462

ONLY £18.49

Airliner Classics 4 Magazine Special



Brought to you by the industry renowned team behind Airliner World, the guest writers of the new series Airliner Classics series feature the world's most iconic aircraft to bring you the best from the aviation world. Each issue features high quality pages, in-depth features on aircraft, and a special 'Airliner World' section.

Subscribers call for your £1.00 discount!

Code: ALCLASS4

ONLY £4.99

New York JFK Classic Airport DVD



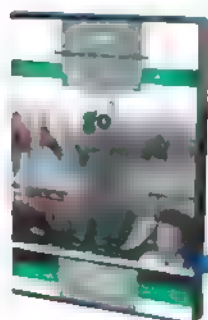
Journey back in time to America's most famous airport. NEW YORK JFK INTERNATIONAL AIRPORT! Airliner World takes you back to the early days for a glimpse at the classic airlines and airlines that served the airport. JFK was the gateway to the world and the history of aviation.

Region-Free DVD.
Running time: 60 minutes.

Code: DVD339

ONLY £12.49

Go Boeing 737-300 DVD



Join former British Airways budget airline Go on a special trip from London to Faro, Portugal in the high speed jet of the world's most popular airliner. This Platinum Collection title has been shot using 7 cameras with crystal clear digital stereo audio for first class quality.

Region-Free DVD.
Running time: 90 minutes.

Code: DVD483

ONLY £23.49

Swissair MD-11 DVD



Swissair was one of the launch airlines of the MD-11 and this was the last operation of the type in Europe. This MD-11 flew from London to Zurich with the aircraft inside and out. This DVD does an outstanding job in presenting the cockpit and the operation of a long haul flight to South America.

Region-Free DVD.
Running time: 167 minutes.

Code: DVD457

ONLY £18.49

Austrian 777-200 DVD



During this video a half-hour of the Austrian Airlines 777-200 is shown. We follow the pilots on their joy trip as they perform take-offs and brief you on the cockpit and the flight.

This DVD does an outstanding job in presenting the cockpit and the operation of a long haul flight to South America.

Region-Free DVD.
Running time: 167 minutes.

Code: DVD435

ONLY £18.49

Product	UK	US	Canada
Go Boeing 737-300 DVD	£1.99	£2.99	£3.99
Swissair MD-11 DVD	£2.99	£3.99	£4.99
Austrian 777-200 DVD	£3.99	£4.99	£5.99
Air Canada Boeing 777-200LR DVD	£4.99	£5.99	£6.99
New York JFK Classic Airport DVD	£5.99	£6.99	£7.99
Airliner Classics 4 Magazine Special	£6.99	£7.99	£8.99

All prices correct at time of going to press. Terms and conditions apply. See www.keypublishing.com/shop for full details. *FREE P&P UK & BFO only up to an order value of £19.99

How to Order



TELEPHONE: (UK)
(OVERSEAS)
Monday to Friday 9.00am until 5.30pm



COMPLETE/PHOTOCOPY THE FORM BELOW
AND FAX TO: (UK)
(OVERSEAS)



COMPLETE THE FORM AND POST TO:

MAIL ORDER FORM

PAYER'S DETAILS

Title First name
Surname
Address
Postcode Country
Email address
Phone (optional) (optional) (optional) (optional)

DELIVERY DETAILS (IF DIFFERENT)

Title First name
Surname
Address
Postcode Country

Sub Total	
P&P	
Grand Total	£

PAYMENT METHODS

Payments are accepted by cheque, Postal Order, Credit Card and US Dollar check. Payments by credit or debit card will be shown on your statement as Key Publishing Ltd and debited in UK Sterling. Use local currency as a guide as prices are subject to currency exchange rate fluctuations.

I enclose a cheque/check for £ or US \$ made payable to Key Publishing Ltd

Please debit my Mastercard ☐ Visa ☐ Maestro (UK Mainland only) ☐

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Issue number* Expiry date 3 or 4 digit security number

*Maestro only (Last digits on reverse of card)

Signature Today's date

Key Publishing will hold your details to process and fulfil your order. Occasionally we may wish to contact you to notify you of special offers on products or events. If you do not wish to receive this information please tick here ☐ or mention when calling

cambrian

AIRWAYS

Cambrian Air Services Ltd was founded in Cardiff on April 25, 1935 by S Kenneth Davies "to carry on business as an airline, aerodrome and airport operator" with a nominal capital of £10,000. A de Havilland DH60G Gypsy Moth biplane was initially used for light charters, pleasure flying and some military contract work in South Wales, but all operations were suspended at the outbreak of World War Two. As soon as civilian flying began again after the

Right • In the summer of 1950, the carrier had seven DH89A Dragon Rapides in service including, G-ALAT 'Anglesey'

British Air Services was set up by BEA to operate the regional air services of Cambrian and BKS Air Transport (later to become Northeast Airlines)

end of the hostilities, Cambrian resumed operations. It conducted the first post-war charter flight in Britain in January 1946 when one of its three Auster Autocrats, flown by chief pilot Captain Eric Symmons, transported a cargo of wire rope from Pengam Moors (Cardiff's post-war civil airport) to Bristol. In its early years, Cambrian once again used light aircraft, including a Percival Proctor, a Hendy Heck and three DH89A Dragon Rapides for passenger and freight charters, while its Austers were used for

pleasure flying from Broomhall airfield, close to the Butlin's holiday camp at Pwllheli in North Wales.

In May 1948 Cambrian and Western Airways became the first two airlines to be granted British European Airways (BEA) Associate Agreements for the operation of a number of scheduled services each day between Cardiff and Weston-Super-Mare. Western Airways used Avro Ansons while Cambrian flew Dragon Rapides. For the 1949 summer season, it operated the flights on its

Charles Woodley



THE WELSH DRAGON



"AFTER THE END OF THE WAR, CAMBRIAN RESUMED OPERATIONS AND CONDUCTED THE FIRST POST-WAR CHARTER FLIGHT IN BRITAIN IN JANUARY 1946."

own and was granted several other routes, including links to the Channel Islands. These were all seasonal and were suspended for the winter, but resumed for the summer of 1950 by which time the carrier had seven Dragon Rapides in service. These were also used for military contract work including army co-operation flights.

For the summer of 1951, rotations were operated from Cardiff to the Channel Islands, Liverpool and Weston-Super-Mare, and between Cardiff and

Liverpool, while a Haverfordwest-Swansea-Cardiff-London link was also flown. That year, Cambrian flew 328,460 revenue miles and employed a staff of 40, including eight pilots. The following year it flew over one million revenue miles for the first time.

There was more expansion in February 1953, when Cambrian purchased part of the redundant fleet of Olley Air Services, taking over its routes from Bristol to the Channel Islands from April 1. The >>





Above - By 1954, DH104 Doves were in operation on the routes from Cardiff and Bristol to Paris and the Channel Islands. This promotional image shows G-AIWF. (Via Garry Hillard)

Left - Publicity photograph of Cambrian DH114 Heron G-AOGO over the Clifton Suspension Bridge near Bristol. (Via Garry Hillard)

airline also bought out Gloucester-based Murray Chown Aviation and its services from Staverton to the Channel Islands while also taking over operation of the airport.

In 1953, joint managing directors were appointed - Wing Commander L B Elwin and W W Stanley - and that summer, services were flown from Southampton to Paris with connecting flights from Bristol, Cardiff and Staverton. A Cardiff to Dinard service was also started. Early in 1954, the Cardiff services from Pengam Moors were transferred to the newly-opened airport at Rhoose. The old facility's 2,900ft (884m) runway was still long enough for the Dragon Rapides but not the larger aircraft in prospect. DH104 Doves were now in operation on the routes from Cardiff and Bristol to Paris and the Channel Islands and in November that year, they were joined by two Douglas DC-3 Dakotas.

Change of name

To reflect its main business, the company's name was changed slightly to Cambrian Airways in May 1955 and, with growth in mind, two new DH114 Heron Series 2s were acquired the following year. One of these inaugurated a twice-weekly service from Cardiff and Bristol to Belfast in May - just prior to the carrier signing a ten-year operating agreement with BEA which resulted in more new routes being announced: from Liverpool and Manchester to Jersey, via Bristol and Cardiff.

By the summer of 1956 Cambrian had retired all its Dragon Rapides from passenger services but retained one for use as a company transport. Dakotas were now used almost exclusively on scheduled services, and in November 1956 they joined aircraft from many other British independent airlines for the airlift of refugees from Austria to

"ON FEBRUARY 7, 1958 BEA TOOK A ONE-THIRD INTEREST IN THE AIRLINE WITH THE INTENTION OF STRENGTHENING THE INTEGRATION OF SERVICES BETWEEN THE TWO."

the UK following the unsuccessful anti-Soviet uprising in Hungary. The Dakotas flew from Blackbushe (to the south-west of London) to Linz and Vienna, carrying blankets and medical supplies on the outbound leg and refugees on the return journey. The early flights were provided free of charge, and by the time the airlift ended on December 14, the DC-3s had completed 16 round trips.

Cambrian terminated its involvement with Staverton Airport in 1957 but began operating between Swansea and Jersey with its Herons on June 1. This was also the date of the official opening of Swansea's new airport on the site of the former RAF Fairwood Common, and it was agreed that Cambrian would manage the airport on behalf of Swansea Corporation. During that year over 40,000 passengers were carried on its scheduled services.

On February 7, 1958 BEA took a

Far right - Douglas DC-3 Dakota G-ALXL just arriving on stand at Manchester Airport in August 1968. (author)



one-third interest in the airline with the intention of strengthening the integration of services between the two, but Cambrian sustained heavy losses during the year, and at the end of the summer season all its aircraft were placed into storage and advertised for sale. That winter, all services remained suspended except for Manchester-Cardiff-Bristol-Jersey flights which used Herons, operated on its behalf by Jersey Airlines. However, after discussions with BEA it was agreed that Cambrian would lease three Dakotas from the national carrier in order to restart operations in the spring of 1959. So, after a period of crew training, the Cardiff-Bristol-Jersey and Cardiff-Bristol-Southampton-Paris services were reopened on March 23.

The next two years were spent consolidating the existing route network. During 1960 the leased Dakotas were purchased from BEA and almost 55,000 passengers were carried. More Dakotas were added the following year bringing the fleet up to eight, and on October 16, 1961 Dakota G-AMFV inaugurated operations into the newly-opened airport at Cork in Ireland. Cambrian was the first British airline to operate to Cork, with scheduled services from Bristol, Cardiff and London.

New routes and turboprops

The only new route started in 1962 was from Glasgow to Cardiff via Manchester and Bristol, but early the following year, major expansion was announced when BEA revealed it was transferring its services linking

Liverpool, Manchester and London to the Isle of Man to Cambrian operations. A fleet of Vickers Viscount 701s was acquired from the national carrier to operate this new network, becoming the first turboprops to be used by Cambrian. In January 1966, five more were purchased from Channel Airways to bring its total fleet to eleven. The first commercial service to be operated by a Cambrian Viscount was actually a charter flight carrying Welsh rugby supporters from Cardiff to Edinburgh on February 2, 1963 for the international match against Scotland. From that point onwards rugby supporters' flights were to become a regular fixture, carrying Welsh fans to matches in Paris, Dublin and Edinburgh.

The Viscounts actually entered service on the scheduled network on February

20, with a Cardiff-Bristol-Dublin service operated by G-AMOP. Their acquisition also allowed Cambrian to expand its inclusive tour (IT) flight operations and undertake an extensive programme of flights on behalf of Hourmont Holidays. By 1964, weekend charters were being operated from Cardiff via Bristol to Barcelona, Nice, Ostend, Palma, Rimini, Valencia, Venice and Zagreb; and from Exeter to Palma. An additional Dakota service was flown on Sundays from Swansea to Ostend. The Viscounts were routinely used on nightly newspaper and cargo contract flights from Liverpool to Belfast and the Isle of Man and Cambrian also acted as handling agents for the Irish carrier Aer Lingus' newspaper flights from Liverpool to Dublin on Saturday nights.

Left - The company name was revised slightly to Cambrian Airways in May 1955 and, with growth in mind, two new de Havilland DH114 Heron Series 2s were acquired including G-AOGU.

Above Left - In 1967 Douglas DC-3 Dakota G-AHCZ was refurbished internally with 24 Hawker Siddeley Trident-type seats, a full galley and extra soundproofing at a cost of £12,000 to assess passenger reaction with a view to updating the rest of the Dakotas in the same way.

>>





It was while operating a cargo flight from the Isle of Man that Viscount G-AMOL was lost on July 20, 1965. The aircraft unfortunately crashed into a factory on final approach to Liverpool with the loss of both crew and two people on the ground.

During 1966, Cambrian's Dakotas continued to operate holiday services out of Swansea to the Channel Islands and Dublin. A year later, one example (G-AHCZ) was refurbished internally with 24 Hawker Siddeley Trident-type seats, a full galley and extra soundproofing at a cost of £12,000 to assess passenger reaction with a view to updating the rest of the Dakotas in the same way. The inaugural 'Super-Pionair' service was operated from Cardiff to Paris on October 27, 1967, but no further conversions were carried out.

Earlier in the year, on July 15, 1967 Viscount G-AMOE arrived at Liverpool from the Isle of Man with suspected hydraulic problems. Engineers worked on

BEA revealed it was transferring its services linking Liverpool, Manchester and London to the Isle of Man to Cambrian operations. A fleet of Vickers Viscount 701s was acquired from the national carrier, including G-AMOE, pictured on final approach in Cambrian's early livery.

Rail Mail 11/1967

the problem and then carried out taxiing tests, during which the brakes failed and the aircraft clipped the wing of a parked Aer Lingus Viscount before ending up with its nose poking through the doors of one of the boarding gates at the terminal.

In November 1967 Cambrian became a wholly-owned subsidiary of British Air Services, the company set up by BEA to operate the regional air services of Cambrian and BKS Air Transport (later to become Northeast Airlines). This led

to greater integration of the operations of both airlines, part of which was the transfer of all Viscount maintenance to the Cambrian facility at Cardiff (Rhoose). The services from Swansea were run down during the late 1960s and the last Dakota was retired on October 31, 1968 after G-ALCC had flown an evening service from Paris to Bristol and Cardiff.

When British Eagle International Airlines suddenly ceased operations in November 1968, Cambrian immediately

Right - From July 1970 former BEA Viscount 806s - including G-AOYG - were acquired to replace the ageing Viscount 701s, the last of which were withdrawn at the end of 1971.

Rail Mail 11/1967



took over the failed airline's routes from Liverpool to Glasgow, Chester and London on a temporary permit until the licences were formerly transferred.

The carrier's first jet aircraft, a British Aircraft Corporation (BAC) One-Eleven, G-AVOF, was delivered in December 1969, and after crew training sorties the airline operated its first scheduled jet service the following March. The decision to acquire jets coincided with the formation in May 1969 of a new associate company called Cambrian Air Holidays, set up in conjunction with Thomas Cook and Sons and Lunn-Poly Travel to operate IT holidays from Bristol and Cardiff to destinations in Spain such as Alicante, Ibiza and Palma.

On January 19, 1970 another Viscount was lost when G-AMOA was damaged beyond economic repair in a heavy landing at Cardiff but fortunately there were no injuries among the 63 occupants.

For the 1970 summer season, three One-Elevens were in service, operating scheduled services from Heathrow to Cork, the Isle of Man and Liverpool, and from Liverpool to Dublin.

One example was even based in West Berlin, operating internal German services on behalf of BEA.

From July 1970 former BEA Viscount 806s were acquired to replace the ageing Viscount 701s, with the last of these withdrawn at the end of 1971. Most were scrapped, but two examples were repainted in British Overseas Airways Corporation (BOAC) livery and used on feeder services from Belfast, Edinburgh and Aberdeen to Prestwick to connect with BOAC transatlantic services.

This de Havilland Dragon Rapide is now on display outside the Marriott Hotel at Speke – the old Liverpool Airport Terminal.

By Garry Hillard

"THE CARRIER'S FIRST JET AIRCRAFT, A BAC ONE-ELEVEN, WAS DELIVERED IN DECEMBER 1969."

Below - The carrier's first jet aircraft, a BAC One Eleven, G-AVOF (c/n 131), was delivered in December 1969 and operated the carrier's first scheduled jet service on March 9, 1970. By 1972, it had been painted in this 'orange-top' livery. (Ralf Mantussen)

Meanwhile, G-ALWF, the oldest surviving Viscount, was saved for posterity. This historic aircraft flew its last official revenue service on Christmas Eve 1971, but took to the air again on April 12, 1972 on a special flight from Cardiff via Heathrow to Liverpool, where it was ceremonially handed over to the Lord Mayor for intended public display at Liverpool Airport. However, following a change of plan, it eventually found a permanent home among the collection of historic airliners at Duxford, UK and was repainted in its original BEA livery. (See *Airliner World* August 2009.)

During 1972, one of the One-Elevens was stationed at Gatwick for the summer to operate tour services to Dubrovnik on

behalf of BEA Airtours. But the end for the carrier – in name at least – was close at hand. On April 1, 1972 it came under the control of the newly-formed British Airways Board; and on September 1 it became part of the Regional Divisional of British Airways, and the name and distinctive dragon emblem were consigned to the history books. **END**

The author would like to thank Ralf Mantussen, Dietrich Eggert and Garry Hillard for supplying images. For further Cambrian images and nostalgia, readers are recommended to visit Garry Hillard's excellent Cambrian Airways website: www.cambrianairways.org.uk



Formerly belonging to the World Fish and Agricultural Corporation – aka 'Wingco Flight' – Lockheed C-121J Super Constellation, N2475 (c/n 4240), has been stored at Manila since at least 1968.

The smaller airlines at Manila's Ninoy Aquino International Airport in the Philippines operate a wide variety of propeller types – some of which have probably reached the end of their useful lives, as **Richard Vandervord** discovered.

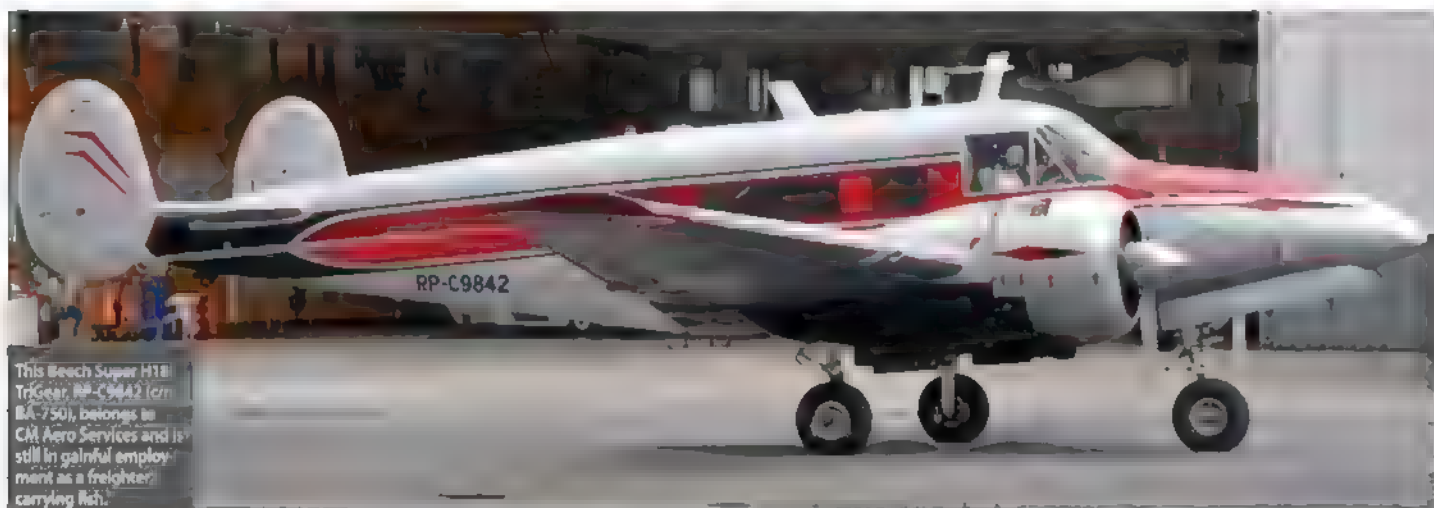


Manila's Propeller Miscellany

The airport used to have a number of active NAMC YS-11s based, but sadly no more. This example, RP-C3587 (c/n 2069) with BIMP EAGA Air Alliance titles is slowly being dismantled.



Regional carrier airphillexpress.com has a growing fleet of Airbus A320s and Bombardier Dash 8s – including Q314 RP-C3017 (c/n 657).



We welcome any feedback on this listing.

(The listing is alphabetical with reference to the registration of the country of origin.)

VOLOTEA AIRLINES (V7/VOE)

El EWJ	B717 2BL 55171	dd 17.05.12, lsd fr Boeing
VUELING AIRLINES (VY/VLG)		
EC JFH	A320-232 2104	named 'Vueling rocks my world'
EC LRM	A320-232 1349	ex El EUC, dd 18.05.12, lsd fr ILFC
EC LRM	A320-214 3995	ex D-ABDK, dd 22.05.12
EC LRS	A319-112 3704	ex D-ABGR, dd 26.05.12, lsd fr ILFC

IRAN AIR TOURS (B9/IRB)

UR CJO	A320-231 0354	ex N354BV, dd 05.12, lsd fr Khors Air
--------	---------------	---------------------------------------

ZAGROS AIRLINES (ZV/ZG)

EP ZAC	MD-83 49949	ex UR-COR, dd 03.12, lsd fr Khors Air
--------	-------------	---------------------------------------

BELAVIA (B2/BRU)

EW 336PA	B737 3Q8 26312	ex VQ-BND, dd 19.06.12, lsd fr ILFC
----------	----------------	-------------------------------------

MAHAN AIR (WS/IRM)

EX 27000	BAe 146-300 E3216	rr EP MOA
UR CJI	BAe 146-300 E3165	rr EP MDC

NASAIR (UE/WAS)

E7 SKA	A320-231 0428	ex EY-623, 05.12, lsd fr Sky Bosnia
--------	---------------	-------------------------------------

AIR PAROTONGA (GZ)

E5 TAL	Emb 110P2 110245	ex H LUQA
--------	------------------	-----------

SKY BOSNIA (SBH)

E7 SKB	A320-212 0325	ex EX32003, dd 07.05.12, lsd fr Kyrgyzstan Airlines
--------	---------------	---

AIR FRANCE (AF/AFR)

F GSOA	B777 32BER 32723	new owner Aircrafts 77B-32723 Inc (ILFC) 08.08.11, purch off lease fr BOC 10.11, st SL ALPS, lsd 08.12.11 & lsd back
F GUOB	B777 F2B 32965	dd 15.05.12, st West Hope Leasing Co Ltd & lsd back
F GUOC	B777 F2B 32966	ex F WWOB, dd 21.05.12, st Chishima Real Estate Co Ltd & lsd back

F GZNM

B777 32BER 40376		ex F WWAF, dd 02.05.12, st SMC Capucine Bail & lsd back
------------------	--	---

F HBHL

A320-214 5129		ex F WWAF, dd 02.05.12, st SMC Capucine Bail & lsd back
---------------	--	---

F HPIH

A380-861 099		ex F WWAF, dd 02.05.12, st SMC Capucine Bail & lsd back
--------------	--	---

EUROPE AIRPOST (SQ/FOF 'FRENCH POST')

F-GZTJ	B737-451(F) 25595	ex NS95AG, dd 25.05.12, lsd fr ACG
--------	-------------------	------------------------------------

REGIONAL - COMPAGNIE AERENNE EUROPEENNE (YS/RAE)

F HBXL	E170-100LR 0009	ex El DFH, reg'd 22.06.12, lsd fr Aldus Portfolio Leasing
--------	-----------------	---

F HBXM

E170-100LR 0010		ex El DFH, reg'd 22.06.12, lsd fr Aldus Portfolio Leasing
-----------------	--	---

BLUE ISLANDS (SI/BCI)

G-EKGG	J5 3102 773	ex SE-LGH, dd 08.05.12, lsd fr Links Air
--------	-------------	--

BRISTOW HELICOPTERS (UH/BHL)

G-CHBY	Agusta AW139 31310	ex OY-HLB, reg'd 16.05.12
G-CHHP	S-92A 920158	ex N158G, reg'd 27.06.12
G-ZZSL	EC 225LP 2721	ex VM-ZFH, reg'd 23.05.12, ret fr Bristows Australia

CHC SCOTIA

G-CHCV	Agusta AW139 41005	ex UP-AW907, reg'd 41005, ret off lease
--------	--------------------	---

G-CHCY

AS 332L2 2398		ex D2-EVP, reg'd 23.05.12, lsd fr CHC Global
G-LOWC	Agusta AW139 31418	reg'd 28.05.12
G-AGAR	Agusta AW139 31414	reg'd 28.05.12
EASTERN AIRWAYS (T3/EZE 'EASTFLIGHT')		
G-EMBP	ERJ 145EU 145300	ex PT-SKR, dd 31.05.12, lsd fr Aircraft Solutions LLC

EASYJET AIRLINE (U2/EZY 'EASY')

G-EZJU	A320-214 5150	ex D-AXAA, dd 11.05.12
G-EZUX	A320-214 5138	ex D-AMVH, dd 15.05.12
G-FBVG	E170-200STD 0344	ex PT-TCY, dd 27.06.12

JET2 (LS/EXS 'CHANEX')

G-GDFL	B737 36N 28568	ex DO-VGG, reg'd 22.06.12
G-LSAN	B757-21C2 26635	ex HC-CFY, reg'd 30.05.12

MANX2 (MAN/BPS 'BASE')

G-JIBO	J5 3102 711	ex G-OJSA, dd 10.05.12, lsd fr Links Air
--------	-------------	--

G-LNKS

J3102 772		ex G-JURA, dd 17.05.12, lsd fr Links Air
-----------	--	--

THOMAS COOK AIRLINES (MT/TCS 'WESTREL')

OY VKF	A330-243 309	ex G-CSJS, dd 28.04.12, lsd fr Thomas Cook Scandinavia
--------	--------------	--

YL-LCI

A320-214 0724		ex F-WTAD, dd 01.05.12, sub-isd fr SmartLynx
---------------	--	--

THOMSON AIRWAYS (BY/TOM)

G-TAWJ	B737 8HK 38108	dd 08.05.12, lsd fr ACG
--------	----------------	-------------------------

TITAN AIRWAYS (TA/AMC 'ZAP')

G-POWH	B757 256 29308	ex TC-GCT, reg'd 18.06.12
--------	----------------	---------------------------

TRAVEL SERVICE HUNGARY (TVL TRAVELAIR)

HA LKB	B737-86Q 30294	ex C-GRKB, ret fr Sunwing
--------	----------------	---------------------------

WIZZ AIR (W6/WZZ)

HA LWP	A320-232 5139	ex F-WWHD, dd 18.05.12
--------	---------------	------------------------

SWISS INTERNATIONAL AIRLINES (LX/SWI)

HB-JLS	A320-214 5069	named 'Niederhasli'
HB-AMM	A340-313X 154	named 'Solothurn'

ZIMEX AVIATION (CA/AMX)

HB-LPY	DHC 6 400 851	ex VH-ZZH, reg'd 21.06.12
--------	---------------	---------------------------

TAME LINEA AEREA DEL ECUADOR (EQ/TAE)

HC-CMO	A319-112 0946	ex F-WTBM, dd 29.05.12, lsd fr GECAS
--------	---------------	--------------------------------------

AVIANCA AEROVIAS NACIONALES DE COLOMBIA (AV/AVA)

N915AV	A320-214 5195	ex D-AYVX, dd 07.05.12, in Star Alliance colours
--------	---------------	--

ASIANA AIRLINES (OZ/AAR)

HLB256	A321 231 5169	ex D-AVZH, dd 25.05.12, lsd fr ALC
--------	---------------	------------------------------------

KOREAN AIR (KE/KAL)

HLB248	B737 9B5ER37635	dd 18.05.12
--------	-----------------	-------------

AIR PANAMA (PP/PST)

HP 1764PST	Fokker 100 11364	ex F-GIOG, dd ex Woensdrecht 11.06.12
------------	------------------	---------------------------------------

COPA AIRLINES (CM/CMP)

HP 1823CMP	B737-8V3 40779	dd 15.05.12
HP 1823CMP	B737-86N 39398	dd 29.05.12, lsd fr GECAS

NOK AIR (ND/NOK)

HS DBD	B737-8AS 33821	ex N338CR, dd 09.05.12, lsd fr Chishima Real Estate
--------	----------------	---

ORIENT THAI AIRLINES (OX/OEA)

HS STB	B747-441 24956	ex PK-GSI, bf ILFC 06.12
--------	----------------	--------------------------

SGA AIRLINES / NOK MINI (SE/SGM)

HS GBF	Saab 340N 449	ex N449XL, dd 22.05.12, lsd fr Lambert Leasing
--------	---------------	--

THAI AIRWAYS INTERNATIONAL (TG/THA)

HS TGH	B747-4D7 24458	cnv'd to B747-4D7BCF by TAECC, dd ex-Xiamen
--------	----------------	---

SAUDI ARABIAN AIRLINES (SV/SVA)

HZ AKA	B777-268ER 28344	repainted into SkyTeam colours
--------	------------------	--------------------------------

SOLOMON AIRLINES (DE/SOL)

H4 AAJ	Bn 28 26 2154	ex T3-VIN, dd 04.11, lsd fr Colville Aviation
--------	---------------	---

AIR ITALY (IG/AEY)

El-IGN	B737-8AP 35074	ex SP-IGN, ret fr Air Poland
--------	----------------	------------------------------

ALITALIA (AZ/AZA)

El-EJM	A330-202 1308	ex F-WWKH, dd 14.05.12, lsd fr Airbus Financial
--------	---------------	---

El-EJM

A330-202 1313		ex F-WWYM, dd 29.05.12, lsd fr Airbus Financial
---------------	--	---

El-IMU

A319-111 5130		ex D-AYYA, dd 22.05.12, lsd fr GY Aviation Lease 103 Co Ltd, named 'Pietro Verni' to be renamed 'Parco Nazionale d'Abruzzo Lazio e Molise' painted in SkyTeam colours named 'Parco Nazionale della Sila'
---------------	--	--

E-RDD

E170 100STD 0334		
------------------	--	--

E-RND

E190 100STD 0512		
------------------	--	--

E-RNE

E190 100STD 0520		
------------------	--	--

LIVINGSTON (NEW LIVINGSTON) (LM/LVLI)

El-EUA	A320-232 2210	ex EC-FYG, dd 30.05.12, lsd fr Airspeed Ireland leasing
--------	---------------	---

MISTRAL AIR (TM/MSA)

El-BUE	B737-340KC 23810	ex F-GJXL, dd 07.06.12, lsd fr Automatic
--------	------------------	--

El-ETT

B737-4KS 24125		ex CN-RPC, dd 09.05.12, lsd fr Falewood
----------------	--	---

ANASIA JAPAN (JW)

JAR384	A320-211 0151	ex F-WWDR, dd 16.04.12, lsd fr ANA
--------	---------------	------------------------------------

ANA - ALL NIPPON AIRWAYS (NH/ANA)

JA206A	A320-214 3147	lsd fr Mitsui Sumitomo Trust
--------	---------------	------------------------------

JA207A

A320-214 3148		as JA206A, dd 23.05.12
---------------	--	------------------------

IBEX AIRLINES (FW/IBX)

JA08RJ	CRJ700 10333	ex C-GIAR, dd 28.05.12
--------	--------------	------------------------

JAL EXPRESS (JC/JEX 'JANEX')

JA343L	B737-846 39162	dd 30.05.12
--------	----------------	-------------

JETSTAR JAPAN (GK)

JA02JJ	A320-232 5145	ex F-WWIL, dd 23.05.12, lsd fr Qantas
--------	---------------	---------------------------------------

SKYMARK AIRLINES (BC/SKY)

JA71NP	B737-8HK 38109	dd 15.05.12, lsd fr ACG
--------	----------------	-------------------------

EZIS AIRWAYS (EE/EZA)

JU 9921	B737-7V3 29360	ex N201LF, dd 16.06.12, lsd fr ILFC
---------	----------------	-------------------------------------

MONGOLIAN AIRLINES GROUP (MR/MML TRANS MONGOLIA)

JU 888	A319-112 1706	named 'Great Mongol'
--------	---------------	----------------------

ROYAL JORDANIAN AIRLINES (RJ/RJA)

JY AYU	A320-232 5128	ex D-AYVE, dd 24.05.12, lsd fr AWAS
--------	---------------	-------------------------------------

SVG AIR (SVD)

JR JVF	Bn 28 26 2165	ex J6-JVF
--------	---------------	-----------

NORWEGIAN AIR SHUTTLE (BY/NAX 'NOR SHUTTLE')

LN-DYZ	B737-8JP 39013	dd 21.05.12, tail logo 'Arlid Edvardsen - Norwegian evangelist'
--------	----------------	---

WIDERØE'S FLYVESELSKAP (WF/WIF)

LN-WSC	Dash B-202 441	ex C-CLUG, dd 01.06.12, after mods in Canada
--------	----------------	--

CANGOLUX (CV/CLE)

LX-CVV	B747-3R7F 35607	named 'City of Eitelbruck' dd 24.05.12
LX-VCF	B747-3R7F 35610	named 'City of Echternach'

DOT - DANILO ORO TRANSPORTAS (DO/DNI)

LY-MCA	ATR 72-201 212	ret fr Antrak Air
--------	----------------	-------------------

AIR VIA (VL/VIM 'VIA AIRWAYS')

LZ-MDR	A320-232 5158	ex D-AXAC, dd 23.05.12, lsd fr AWAS
--------	---------------	-------------------------------------

BULGARIAN AIR CHARTER (BUC 'BULGARIAN CHARTER')

LZ-LDM	MD-82 53228	ex ER82228, ret fr Ararat Int'l
--------	-------------	---------------------------------

Still carrying its ANA Wings colours, Bombardier Dash 8-Q314, OY-CJY (c/n 592), belonging to Nordic Aviation capital, was pictured at Eindhoven Holland in June where it had arrived for repainting. It has since been operating for Widerøe of Norway. (Niels Quist)

While some of the Airbus acquired by Iberia Express have kept their original serials, this A320-214 has been reregistered from EC-HTA to EC-LRG (c/n 1516). (Javier Rodriguez)





South African low cost carrier Kulula (Comair Limited) has taken delivery of its first brand new Boeing 737-8LD in the form of ZS-ZWA (c/n 40851). The aircraft wears a new corporate livery/colour scheme.

Joe Walker

Russian carrier Orenair (Orenburg Airlines) has received its second Boeing 777-200(ER). The aircraft, F-OMAY (c/n 29402), was repainted with KLM at Amsterdam before repositioning back to Paris/Charles de Gaulle for pre-delivery work and delivery as VP-BHB on July 9. (Ton Jochems)

ABX AIR (GB/ABX 'ABEX')
N220CY B767 383ER(F) 24729 ex EC-LKV, dd 04.05.12, lsd fr GAP
N709AX B767-231 22572 convrd to B767-231(F) by IAI Bedek, dd ex-Tel Aviv 14.05.12, rr N653GT ferried to Tel Aviv 02-04.05.12 for conversion to freighter

AMR FLAMENCO (RSL)
N203PR B747-200 2248 ex G-BSWU, reg'd 11.05.12
ARATRAIR AIRWAYS (FL/TRS 'CITRUS')
N167AT B737-700 33918 rr N7704B

ALASKA AIRLINES (AS/ASA)
N538AS B737-800 41188 dd 22.05.12
N617AS B737-700 30542 st Weyl Fargo Bank Northwest & lsd back
N623AS B737-700 30166 st Weyl Fargo Bank Northwest & lsd back
N624AS B737-700 30778 as N623AS

ALLEGIANCY AIR (G4/NAV)
N426MV MD-82 49438 convrd to MD-83 05.12

AMERICAN AIRLINES (AA/AAJ)
N891NH B737-823 33315 ex N1786B, dd 08.05.12, st Wilmington Trust & lsd back
N892NH B737-823 31145 dd 27.05.12, st Wells Fargo Bank Northwest & lsd back
N921TW MD-82 49101 purch off lease from Boeing as N921TW

ATLAS AIR (SY/GFI)
N707AX B767-231 F+ 22570 dd 15.05.12
N850GT B747-87LF 37570 lsd fr op for DHL rr N651GT dd 29.05.12
is in full Panalpina colours

BERRY AVIATION (BYA)
N707TG Emb 120ER 120182 ex N17728, bf Gordon Air 03.05.12

DELTA AIR LINES (DL/DAL)
N674LS B747-451 30269 ferried Marana - Singapore 20.02.05 2 for maintenance & rts after storage
N940DN MD-90-30 53559 ex JAR8004 ferried Marana - Atlanta 16.02.12 for repainting
N960DN MD-90-30 53530 Delta colours, ferried to Cecil Field for maintenance

DELTA AIR LINES (DL/DAL)
N963DN MD-90-30 53533 ferried Atlanta - Cecil Field 16.02.12, back to Atlanta 03.05.12, now in service
N964DN MD-90-30 60001 ferried Marana - Atlanta 03.05.12 for painting
N965DN MD-90-30 60002 ferried Marana - Atlanta for painting, to Miami 23.05.12 for maintenance

EP AVIATION
N604AR 5-61N 61222 ex C-GBSF

ERA AVIATION (JH/ERR 'ERAM')
N215AL Dash B-103 215 ex RA-67251, dd 17.05.12, lsd fr Avianca

ERA HELICOPTERS
N602JS EC-225LP 2821 ex F-HUMB, reg'd 07.05.12

EVERGREEN INTERNATIONAL AIRLINES (EZ/EIA)
N741WA B747-400(F) 25702 dd 24.05.12, lsd fr Aircastrle, rr N493EV

EVENTS AIR (E2/VTS)
N930AX DC 9-33F 47363 rr N930CE
N935AX DC 9-33F 47413 rr N935CE

FEDEX EXPRESS (FX/EXPRESS)
N952FD B757-236 28666 convrd to B757-236(F) by SASCO, dd ex Singapore 18.05.12 for cargo conversion
N954FD B757-236 29113 convrd to B757-218(F) by SASCO, dd ex-Singapore 27.04.12
N957FD B757-218 24774 dd 15.05.12, purch off lease 22.05.12

FRONTIER AIRLINES (F9/FFT)
N864FD B777-FS2 37735 ex D-AKLB, dd 29.05.12, lsd fr GECAS
N263AY A320-214 1860

GOJET AIRLINES (G7/GJS 'LINDBERGH')
N317CA CRJ700 10055 ex C-GIAW, dd 09.05.12, lsd fr Delta
N331CA CRJ700 10061 ex C-GIBK, dd 09.05.12, lsd fr Delta

HAWAIIAN AIRLINES (HA/HAL)
N386HA A330-243 1302 named 'Heihei onakelihi', ex F-WWXY, dd 11.05.12, st Wilmington Trust & lsd back, named 'Nahiku'
N388HA A330-243 1310

HORIZON AIR (TX/HEX)
N414QX Dash B-740 4061 repainted into San Diego State University colours
N449QX Dash B-740 4410 ex C-GNCZ, dd 04.06.12

JETBLUE AIRWAYS (B6/JBU)
N351JB E190-100AR0549 ex PT-TBP, dd 25.06.12
N804JB A320-232 5142 ex F-WWBC, dd 6.05.12

NORTHERN AIR CARGO (NC/MAC 'YUKON')
N361NC B737-301(F) 23260 ex TF-BBH, dd 18.06.12, lsd fr GECAS

PENAIR (KS/PEN 'PENINSULAR')
N406X Saab 340B 406 ex SE-B06, dd 15.05.12, lsd fr Lambert Leasing
N410X Saab 340B 410 ex SE-B10, dd 21.05.12, lsd fr Lambert Leasing

SILVER AIRWAYS (SM/SIL 'SILVER WINGS')
N433X Saab 340B 433 ex SE-B33, dd 17.05.12, bf Lambert Leasing, to be rr N353AG
N445X Saab 340B 445 rr N351AG
N446X Saab 340B 446 ex SE-B46, dd 14.05.12, bf Lambert Leasing, to be rr N346AG
N448X Saab 340B 448 ex SE-B48, dd 25.05.12, bf Lambert Leasing, to be rr N348AG

SKYWEST AIRLINES (OO/SKW)
N708SK CRJ700 0156 in new United Express colours
N936SW CRJ200 7726 as N936SW
N937SW CRJ200 7735 as N936SW
N941SW CRJ200 7750 as N936SW
N952SW CRJ200 7805 as N936SW
N962SW CRJ200 7859 as N936SW

SOUTHWEST AIRLINES (WN/SWA)
N7726A B737-700 33924 ex N288AT
N7730A B737-700 33926 ex N294AT
N8307K B737-800 36987 dd 07.05.12
N8308K B737-800 36988 dd 15.05.12
N8309K B737-800 36985 dd 18.05.12
N860TC B737-800 36874 dd 24.05.12, lsd fr ACG, placed in trust with Bank of Utah

SPIRIT AIRLINES (NKK/NKS 'SPIRIT WING')
N614NK A320-232 5132 ex F-WWDF, dd 23.05.12, st NAS Investments 7 & lsd back
N615NK A320-232 5159 ex F-WWDF, dd 29.05.12, st Avianca & lsd back

UNITED AIR LINES (UA/UAL)
N68452 B737-924ER40005 dd 10.05.12
N68453 B737-924ER41472 dd 30.05.12

UNITED PARCEL SERVICE (SK/UPS)
N352UP B767-300F 37875 dd 22.05.12, st C.C. & E.J. LLC & lsd back

VIRGIN AMERICA (VX/VRO 'REDWOOD')
N527VA A319-112 3417 convrd to A319-115 05.21
N851VA A320-214 4999 'Friends Of Arjay Miller'

WORLD ATLANTIC AIRLINES (ZG/WAL)
N563AA MD-83 49345 dd 04.12.12, lsd fr Jetran, to be rr N804WA

WRIGHT AIR SERVICE
N999WV Ce 208B 2002

MIDDLE EAST AIRLINES (ME/MEA)
F-OMRA A320-214 5162 ex D-AXAD, dd 24.05.12, lsd fr GECAS

NIKI (NG/NLY 'FLYNIKI')
D-ABDG A320-214 3121 ex F-WWBD, dd 29.04.12, lsd fr Air Berlin
D-ABFU A320-214 4743 ex D-AYV1, dd 25.04.12, wet-leased fr Air Berlin

HOLIDAY ZEECH AIRLINES (HC 'ZEECH HOLIDAYS')
OK-LEE A320-214 2719 ex F-WWDC, has additional Iceland Express titles & logo
OK-LEF A320-214 2758 ex F-WWDP

SMART WINGS (SP/TVS 'TRAVEL SERVICE')
OK-SHW B737-700 28254 ex EI-EUU, dd 03.06.12, lsd fr ILFC

TRAVEL SERVICE AIRLINES (OS/TVS 'SKYTRAVEL')
OK-TVF B717-81H 29669 ex C-GTIV, ret fr Sunwing
OK-TVG B737-800 30719 ex C-GTIV, ret fr Sunwing
OK-TVW B737-86N 38037 ex N1787B, dd 09.05.12, lsd fr GECAS
VL-ECC A320-217 0310 ex C-FKPS, dd 24.05.12, submitted fr Smartlynx

TNT AIRWAYS (3W/TAY 'QUALITY')
OE-IAT B737-400 29210 ex PK-GZO, dd 06.06.12, lsd fr GECAS

CIMBER A/S
OY-RJG CRJ100 7104 ex D-ACLU
OY-RJH CRJ100 7090 ex D-ACLS
OY-RJL CRJ100 7093 ex D-ACLT
OY-RJL CRJ200 7784 ex HA-LNC

JET TIME (JTG)
OY-JTU B737-7L9 28070 ex OY-MRG, dd 12.06.12
OY-JTW B737-7L9 28008 ex OY-MRF, dd 31.05.12, (both lsd fr Aircastrle)

KLM CITYHOPPER (KL/KLC)
PH-EZX E190-100STD 0545 ex PT-TBI, dd 25.05.12

TRANSALIA AIRLINES (TV/TRA)
PH-HSG B717-8K2 10262 dd 01.05.12

DUTCH ANTILLES EXPRESS (9H/DNL)
PI-DAC Fokker 100 11337 ex PH-CXP, dd 09.05.12, lsd fr SAMCO

CANDAR AIR (BF/CAD)
PK-BBY B737-300(F) 23535 ex EI-ETW, dd 05.04.12, lsd fr GECAS

'GARUDA CITYLINK'
PK-GLG A320-214 3861 ex APC-BAY, dd 05.12.12, lsd fr ILFC

GARUDA INDONESIA (GA/GIA)
PK-MWV B717-8L3 38089 dd 07.05.12

INDONESIA AIRASIA (QZ/AWQ 'WAGON AIR')
PK-AWQ A320-216 5137 ex F-WWDF, dd 16.05.12, lsd fr AirAsia

LIOW AIR (LT/LNI 'LIOW INTER')
PK-LJS B737-8GP 37293 dd 22.05.12
PK-LJT B737-9GP 38720 dd 31.05.12

MERPATI WISANTARA AIRLINES (MZ/MNA)
PK-MDR B737-400 26334 ex B-2965, dd 18.05.12, lsd fr ILFC

Thanks to Dave Richardson and LAASI Aviation for the above



GOJET AIRLINES (G7/GJS 'LINDBERGH')
N317CA CRJ700 10055 ex C-GIAW, dd 09.05.12, lsd fr Delta
N331CA CRJ700 10061 ex C-GIBK, dd 09.05.12, lsd fr Delta

HAWAIIAN AIRLINES (HA/HAL)
N386HA A330-243 1302 named 'Heihei onakelihi', ex F-WWXY, dd 11.05.12, st Wilmington Trust & lsd back, named 'Nahiku'
N388HA A330-243 1310

HORIZON AIR (TX/HEX)
N414QX Dash B-740 4061 repainted into San Diego State University colours
N449QX Dash B-740 4410 ex C-GNCZ, dd 04.06.12

JETBLUE AIRWAYS (B6/JBU)
N351JB E190-100AR0549 ex PT-TBP, dd 25.06.12
N804JB A320-232 5142 ex F-WWBC, dd 6.05.12

NORTHERN AIR CARGO (NC/MAC 'YUKON')
N361NC B737-301(F) 23260 ex TF-BBH, dd 18.06.12, lsd fr GECAS

PENAIR (KS/PEN 'PENINSULAR')
N406X Saab 340B 406 ex SE-B06, dd 15.05.12, lsd fr Lambert Leasing
N410X Saab 340B 410 ex SE-B10, dd 21.05.12, lsd fr Lambert Leasing

SILVER AIRWAYS (SM/SIL 'SILVER WINGS')
N433X Saab 340B 433 ex SE-B33, dd 17.05.12, bf Lambert Leasing, to be rr N353AG
N445X Saab 340B 445 rr N351AG
N446X Saab 340B 446 ex SE-B46, dd 14.05.12, bf Lambert Leasing, to be rr N346AG
N448X Saab 340B 448 ex SE-B48, dd 25.05.12, bf Lambert Leasing, to be rr N348AG

SKYWEST AIRLINES (OO/SKW)
N708SK CRJ700 0156 in new United Express colours
N936SW CRJ200 7726 as N936SW
N937SW CRJ200 7735 as N936SW
N941SW CRJ200 7750 as N936SW
N952SW CRJ200 7805 as N936SW
N962SW CRJ200 7859 as N936SW

SOUTHWEST AIRLINES (WN/SWA)
N7726A B737-700 33924 ex N288AT
N7730A B737-700 33926 ex N294AT
N8307K B737-800 36987 dd 07.05.12
N8308K B737-800 36988 dd 15.05.12
N8309K B737-800 36985 dd 18.05.12
N860TC B737-800 36874 dd 24.05.12, lsd fr ACG, placed in trust with Bank of Utah

SPIRIT AIRLINES (NKK/NKS 'SPIRIT WING')
N614NK A320-232 5132 ex F-WWDF, dd 23.05.12, st NAS Investments 7 & lsd back
N615NK A320-232 5159 ex F-WWDF, dd 29.05.12, st Avianca & lsd back

UNITED AIR LINES (UA/UAL)
N68452 B737-924ER40005 dd 10.05.12
N68453 B737-924ER41472 dd 30.05.12

UNITED PARCEL SERVICE (SK/UPS)
N352UP B767-300F 37875 dd 22.05.12, st C.C. & E.J. LLC & lsd back

VIRGIN AMERICA (VX/VRO 'REDWOOD')
N527VA A319-112 3417 convrd to A319-115 05.21
N851VA A320-214 4999 'Friends Of Arjay Miller'

WORLD ATLANTIC AIRLINES (ZG/WAL)
N563AA MD-83 49345 dd 04.12.12, lsd fr Jetran, to be rr N804WA

WRIGHT AIR SERVICE
N999WV Ce 208B 2002

MIDDLE EAST AIRLINES (ME/MEA)
F-OMRA A320-214 5162 ex D-AXAD, dd 24.05.12, lsd fr GECAS

NIKI (NG/NLY 'FLYNIKI')
D-ABDG A320-214 3121 ex F-WWBD, dd 29.04.12, lsd fr Air Berlin
D-ABFU A320-214 4743 ex D-AYV1, dd 25.04.12, wet-leased fr Air Berlin

HOLIDAY ZEECH AIRLINES (HC 'ZEECH HOLIDAYS')
OK-LEE A320-214 2719 ex F-WWDC, has additional Iceland Express titles & logo
OK-LEF A320-214 2758 ex F-WWDP

SMART WINGS (SP/TVS 'TRAVEL SERVICE')
OK-SHW B737-700 28254 ex EI-EUU, dd 03.06.12, lsd fr ILFC

TRAVEL SERVICE AIRLINES (OS/TVS 'SKYTRAVEL')
OK-TVF B717-81H 29669 ex C-GTIV, ret fr Sunwing
OK-TVG B737-800 30719 ex C-GTIV, ret fr Sunwing
OK-TVW B737-86N 38037 ex N1787B, dd 09.05.12, lsd fr GECAS
VL-ECC A320-217 0310 ex C-FKPS, dd 24.05.12, submitted fr Smartlynx

TNT AIRWAYS (3W/TAY 'QUALITY')
OE-IAT B737-400 29210 ex PK-GZO, dd 06.06.12, lsd fr GECAS

CIMBER A/S
OY-RJG CRJ100 7104 ex D-ACLU
OY-RJH CRJ100 7090 ex D-ACLS
OY-RJL CRJ100 7093 ex D-ACLT
OY-RJL CRJ200 7784 ex HA-LNC

JET TIME (JTG)
OY-JTU B737-7L9 28070 ex OY-MRG, dd 12.06.12
OY-JTW B737-7L9 28008 ex OY-MRF, dd 31.05.12, (both lsd fr Aircastrle)

KLM CITYHOPPER (KL/KLC)
PH-EZX E190-100STD 0545 ex PT-TBI, dd 25.05.12

TRANSALIA AIRLINES (TV/TRA)
PH-HSG B717-8K2 10262 dd 01.05.12

DUTCH ANTILLES EXPRESS (9H/DNL)
PI-DAC Fokker 100 11337 ex PH-CXP, dd 09.05.12, lsd fr SAMCO

CANDAR AIR (BF/CAD)
PK-BBY B737-300(F) 23535 ex EI-ETW, dd 05.04.12, lsd fr GECAS

'GARUDA CITYLINK'
PK-GLG A320-214 3861 ex APC-BAY, dd 05.12.12, lsd fr ILFC

GARUDA INDONESIA (GA/GIA)
PK-MWV B717-8L3 38089 dd 07.05.12

INDONESIA AIRASIA (QZ/AWQ 'WAGON AIR')
PK-AWQ A320-216 5137 ex F-WWDF, dd 16.05.12, lsd fr AirAsia

LIOW AIR (LT/LNI 'LIOW INTER')
PK-LJS B737-8GP 37293 dd 22.05.12
PK-LJT B737-9GP 38720 dd 31.05.12

MERPATI WISANTARA AIRLINES (MZ/MNA)
PK-MDR B737-400 26334 ex B-2965, dd 18.05.12, lsd fr ILFC

a/c aircraft
als airlines
b/c bought from
b/c broken up/scrapped
b/c cancelled
c/c manufacturer's
c/c (c/n) (c/n)
c/c number
convrd converted
d/b destroyed by fire
d/b damaged beyond
d/b repair
d/b dismantle
d/b permanent
d/b first flight
f/r freighter
f/r last revenue flight
f/r leased from
f/r leased to
f/r not taken up
f/r on order
f/r operated
f/r permanently
f/r withdrawn from
f/r use
reg'd registered
reg'd emp'd in
ret fr returned from
ret fr re-registered
rts return to service
sb sold to
scm scrapped/broken
sh sold to
std stored
tba to be advised
unk unknown
w/o withdrawn from
use use
w/o written off/destroyed

SRIWIJAYA AIR (SJ/SJV)			
PK-CLC	B737-524	27323	ex N27610, dd 14.05.12, named 'Citra'
TRANSJAYA AVIATION MANDIRI			
PK-TND	Fokker 50	20260	ex OB-1829
TRU-M.G (GY/TMG)			
PK-YGG	B737-301(F)	23743	ex N433RC, dd 23.04.12, lsd fr RPK Capital
WINGS ABADI AIRLINES (IW/WON)			
PK-WFW	ATR 72-212A	1024	ex F-WWEK, dd 23.05.12
AZUL LINHAS AÉREAS BRASILEIRAS (AD/AZU)			
PR-ATK	ATR 72-600	1020	ex F-WWLM, dd 12.05.12
PR-AXF	E190-200AR	0530	dd 24.04.12, named 'Azul Acima de Tudo'
PASSAREDO TRANSPORTES AÉREOS (P3/PTB)			
PR-PBA	ATR 72-600	1022	ex F-WWLP, dd 22.05.12, lsd fr ALIC
TRIP LINHAS AÉREAS (T4/TIB)			
PP-PJU	E190-100LR	0541	dd 17.05.12
PR-TTG	ATR 42-320	020	rr PR-MPH
WEBJET LINHAS AÉREAS (WH/WEB)			
PR-GGD	B737-8EH	34275	ex N17868
AIR NIUGINI (PX/ANG)			
P2-PXI	Dash-8-201	460	ex C-GHOD, dd 10.05.12
GLOBUS (GH/GLP)			
VP-BDF	B737-8QH	30672	ex EI-EWK, dd 24.05.12, sub lsd fr S7 Airlines
ORENBURG - ORENBURG AIRLINES (R2/ORB 'ORENBURG')			
VP-BEZ	B737-86J	32625	ex D-ABRC
VP-BFA	B737-804	28231	ex SE-DZK, dd 21.05.12, lsd fr Aircastrle
S7 AIRLINES (S7/SBI)			
VP-BDF	B737-8QH	30672	ex EI-EWK, dd 24.05.12, lsd fr ILFC, sub lsd to Globus
VQ-BPM	A320-214	5167	ex F-WWBY, dd 31.05.12, lsd fr ALC
VQ-BRG	A320-214	5134	ex F-WWDA, dd 14.05.12, lsd fr ALC
TRANSERO AIRLINES (UH/TSO)			
EI-RUE	B737-85P	28388	ex EC-HKQ, dd 27.05.12, lsd fr Alafco
EI-RUG	B737-86N	28610	ex VT-SJF, dd 16.05.12, ferried Rome - Moscow
EI-XLE	B747-446	26362	ex 9V-SPR, ferried Tokyo - Rome 19.20.05.12, to Melbourne 30.05.12, lsd fr VEIL 767-300, lsd rr EI-XLJ, ferried Melbourne - St Petersburg 12-13.05.12, lsd fr Richdale Investments
N922UN	B747-446	27646	
UTAIR AVIATION (UT/UTA 'UTIMAVI')			
VP-BAS	B757-28A	28161	ex EI-ETS, dd 25.05.12, lsd fr ILFC
YAMAL AIRLINES (YC/LLM)			
VP-BBE	CRJ200	7630	ex D-ACRG, dd 07.05.12
VP-BBH	A320-232	1918	ex EI-ELO, dd 14.06.12, lsd fr ALC
PHILIPPINE AIRLINES (PR/PAL)			
RP-C861B	A320-214	5140	ex D-APVL, dd 10.05.12, lsd fr GECCAS
ZEST AIRWAYS (ZZ/AT 'ASIAN SPIRIT')			
RP-C8996	A320-233	0874	ex N593SH, dd 16.05.12, lsd fr GECCAS
MALMO AVIATION (TF/TWE)			
SE-DSO	Avro RJ85	E2392	ex OM-SAL, dd 24.05.12, sub lsd fr Blue1

SAS SCANDINAVIAN AIRLINES (SK/SAS)			
SE-OHF	MD-83	49642	ex EC-GVD, reg'd 21.05.12
SE-RET	B737-76M	32734	ex N588SC, dd 23.05.12, lsd fr GECCAS
SE-RJH	MD-82	53165	ex EC-GCV, reg'd 23.05.12
BINGO AIRWAYS (BGV 'SKIMMER')			
SP-ABK	A320-233	2118	ex TC-IZA, dd 05.05.12, lsd fr MCAP
EUROLOT (KZ/ELO)			
SP-EQA	Dash-8-Q402	4406	st NAC & lsd back
SP-EQB	Dash-8-Q402	4407	ex C-GMXX, dd 28.05.12, st NAC & lsd back
SP-EQC	Dash-8-Q402	4408	ex C-GMYD, dd 28.05.12, st NAC & lsd back
OLT EXPRESS POLAND (O2/JEA/YAP)			
SP-IAG	A320-214	2668	ex OE-LEQ, dd 09.05.12, lsd fr Nix
SP-IBA	A319-112	3865	ex D-ABCS, dd 01.06.12
SP-IBC	A319-111	2460	ex G-EZG, dd 11.05.12, lsd fr DAE
TRAVEL SERVICE POLAND (TVP)			
SP-TVZ	B737-8BK	29643	ex OM-TVN, dd 22.04.12, sub lsd fr Travel Service
ALMASRIA UNIVERSAL AIRLINES (UA/LMU)			
SU-TCO	A321-231	1366	ex EI-EUD, dd 29.05.12, lsd fr Caliope
PALESTINIAN AIRLINES (PF/PNW)			
SU-YAH	Fokker 50	20123	ret fr Air Memphis
SU-YAI	Fokker 50	20143	ex D-ABRC
GAINJET AVIATION (GNJ)			
SX-VIP	B737-3VQ	24680	ex N553MS, dd 18.05.12, lsd fr 24680 Holding Ltd
MINOAN AIR (MAV)			
SX-BRS	Fokker 50	20206	ex PH-KVE, dd 27.05.12, named 'Stamiris'
ATLASJET INTERNATIONAL (KK/KKK)			
TC-ATK	A320-232	2747	ex OE-IBQ, dd 30.05.12, lsd fr AerCap
MYCARGO AIRLINES (MT/RUM)			
TC-ACG	B747-4B1(F)	25641	ex N597MS, dd 10.05.12
OMUR AIR (OQ/OHY)			
TC-OBH	A320-232	2571	ex LZ-WZA, dd 22.04.12, lsd fr ACG
TC-OB5	A320-232	0543	ex EI-EEL, dd 18.05.12, lsd fr ILFC
TC-OBV	A321-231	0806	ex TC-JMC, dd 05.12, lsd fr ILFC
PEGASUS AIRLINES (PG/PGT 'SUNTURK')			
TC-CPE	B737-82R	38178	dd 03.05.12, named 'Bade'
TURKISH AIRLINES (TK/THY)			
TC-JAI	A320-232	3259	ex N569MS, dd 09.06.12, lsd fr GECCAS
TC-JBI	A320-232	3308	ex N568MS, dd 28.05.12, lsd fr GECCAS
TC-JHM	B737-8F2	40980	dd 29.05.12, named 'Burgaz'
TC-JNR	A330-343E	1311	ex F-WWNY, dd 09.05.12, named 'Halic Golden Horn'
TC-JRU	A321-231	4788	named 'Florya'
TC-JRY	A321-231	5083	named 'Beyoglu'
TC-JSA	A321-231	5154	ex D-AVZE, dd 15.05.12
TC-JUA	A319-132	2404	ex TC-IZM, dd 07.06.12, lsd fr ILFC
TC-JUB	A319-132	2414	ex TC-IZR, dd 15.06.12, lsd fr ILFC
TC-JYC	B737-9F2ER	04977	ex N977TK, dd 24.05.12, named 'Eregu'

LV-VEY	A320-212	0419	dd 01.06.12, lsd fr Avion Express
BER AIR			
UP-F1004	Fokker 100	11445	ex PK-RGE
AEROSVIT AIRLINES (VV/AEW)			
UR-AAO	B737-84R	38120	dd 24.05.12
KNORS AIR (KO/KHO)			
UR-CKA	A320-231	0393	ex EI-EEX, dd 25.05.12, lsd fr Aviatans K
UR-CKB			
UR-CKB	A320-231	0414	ex EI-EEX, dd 12.06.12, lsd fr Aviatans
AIRNORTH REGIONAL (REGIONALLINK) [TL/AND 'TOPEND']			
VH-AMV	ERJ-170-100LR	0280	named 'Makut Timur'
BROOME AVIATION (BV)			
VH-TLH	Ce 208B	0800	ex 9M-PMA, reg'd 01.06.12, lsd fr Arcia Nominees
COBHAM AVIATION/ NATIONAL JET SYSTEMS (NC/NJS)			
VH-NJM	Avro RJ100	E3265	ferried Adelaide - Perth 04.06.12 after storage
HARDY AVIATION			
VH-AMP	Ce 404	404-0010	dd 17.05.12
PAYS HELICOPTERS PTY LTD			
VH-MKC	Pa-31-350	05201	
SKYWEST AIRLINES (XR/OZW)			
VH-FVX	ATR 72-212A	986	ex OY-CJV, dd 18.05.12, lsd fr NAC, op in Virgin Australia colours
SLINGAIR			
VH-TUY	Ce 208B	1200	ex VH-TFW
VIRGIN AUSTRALIA (DJ/VOZ)			
VH-YFL	B737-8FE	41002	dd 25.05.12, named 'Sandy Beach', std Jackson Square & lsd back
DECCAN CHARTERS			
VT-DCD	Ce 208B	2039	ex D-FAAI, reg'd 11.06.12
INDIGO [BE/IGO 'IFLY']			
V1-IET	A320-232	5094	st AWA5 05.12 & lsd back
V1-IEW	A320-232	5155	ex D-AXAB, dd 25.05.12, st MSH 5155 - Spring Ltd & lsd back
JET AIRWAYS (JW/JAI)			
VT-JBZ	B737-96HER	36539	ex M-ABER, dd 25.05.12, lsd fr GECCAS
VT-JGP	B737-85R	34798	st Avolon 06.12 & lsd back
SPICEJET (SG/SEJ)			
VT-SGZ	B737-8GJ	39423	dd 09.05.12, lsd fr AWA5, named 'Caraway'
V1-SUH	Dash-8-Q402	4389	ex C-GKVP, dd 12.05.12
V1-SZA	B737-8GJ	39424	dd 30.05.12, lsd fr AWA5, named Sage
AEROMEXICO CONNECT (AEROLITTORAL) [SD/SLY]			
XA-ACK	E190-100LR	0538	ex PT-TYW, dd 11.05.12, lsd fr Aeromexico
XA-ACM	E190-100LR	0546	dd 25.05.12, lsd fr Aeromexico
AEROMEXICO TSM (VTM)			
XA-UAL	SA227-AC	AC 704	ex N704C
XA-UOT	DC-9-32	47147	ex N905AX, dd 27.04.12
INTERJET [40/AIJ 'ABC AEROLINEAS']			
XA-PAL	A320-231	0169	ex N196AG, bf ACG, dd Victorville - Toluca 01.05.12 in Travel Service cls, reported to be used as a ground instructional trainer
XA-YCT	A320-214	5163	ex F-WWDI, dd 31.05.12
TRANSPORTES AÉREOS TERRESTRES			
N471SC	DHC-6-300	300	ex PZ-TBW, dd 24.05.12, lsd fr Gum Air
VIGO JET			
XA-TTX	SA227-AC	AC 484	ex N341AE
CAMBODIA ANGKOR AIR [KA/KHV 'CAMBODIA AIR']			
VN-A349	A321-231	2480	ex D-AVYC, dd 04.12, lsd fr Vietnam Airlines
SKYWINGS ASIA AIRLINES			
XU-ZAC	A320-231	0430	ex N286AT, dd 23.04.12, lsd fr AeroTurbine

We welcome any feedback on this listing.

(The listing is alphabetical with reference to the registration of the country of origin.)



One of a batch of four Bombardier Dash 8-Q400s for Indian operator SpiceJet that were delivered in late June/early July, VT-SUL (c/n 4395), made a refuelling stop at Malta. (Stephen J. Muscat via Chris Cauchi)



One of two Cessna 208B Caravans that transited Malta in July bound for Africa. N20269 (c/n 2352) was on delivery to Air Kenya. (Stephen J. Muscat via Chris Cauchi)

The latest training aids available for the aviation professional

Full-Motion Helicopter Simulator

Africa's first full-motion helicopter flight simulator has been commissioned by Eurocopter at Kempton Park near Johannesburg in South Africa. It is designed to train pilots and flight engineers operating the Super Puma and similarly compatible helicopters for both civilian and military uses.



CAE in Barcelona



Part-Sponsored Pilot Programme

Low-fare carrier Flybe has started a new part-sponsored Multi Pilot Licence (MPL) programme with pilot training organisation Stella Aviation Academy of the Netherlands. It is designed to produce First Officers qualified for the Bombardier Dash 8-Q400s in the UK and Europe. It will provide up to eight selected pilots with a financial contribution towards the training costs, a tailor-made training course, mentorship throughout the course and a conditional offer of employment as a First Officer on Flybe's Q400 fleet in 2014. (Photo Flybe)

Successful Selection Day

Atlantic Flight Training (AFT) hosted an assessment day at London/Heathrow on July 12 for would-be pilots to come and find out whether they have what it takes to become a commercial airline pilot. It was deemed a great success by Director of Flight Crew Selection, Captain Mark

Robertson: "We are always thrilled at the high calibre of candidates that attend our assessment days; It is inspiring to see the enthusiasm and aptitude that these young people have. This event in particular demonstrated the benefits of our application process. Applicants that

had taken the time to seek advice and guidance from our Flight Crew Selection Officers and had utilised our pre-selection preparation material were head and shoulders above those who, on this occasion, didn't reach the Atlantic Flight Training standard."



Virtual Fly in South America

Flying training provider Virtual Fly has placed one of its OVO 04 units at the Los Halcones Flying School in Colombia, which trains around 400 students every year. The OVO 04 simulator has a full-motion enclosed cabin, equipped with a 'glass' cockpit that can be used as a basic trainer and also to give experienced students further opportunity to practise flying with instruments using digital navigation screens. It is equipped with two web cameras inside the cabin that focus on the front and the control panel, both of which are monitored from the instructor's console. (Photo Virtual Flight)

FLYING TIME AVIATION

Flight Training for Career Pilots

Integrated Flight Deck Programme

£59,950

All inclusive*

Pay monthly

+44 (0)1273 455177 WWW.FLYINGTIME.CO.UK
CAA REGISTRATION No. OCPI069 UK/FTO - 313

ROUTES
LONDON 1940-1945
AT THE AIRPORT
WINTER WONDERLAND
airports
of the world

**STRATEGIC
AZORES**

Lajes Airport



**ONLY
£4.40!**

JULY/AUGUST ISSUE OUT NOW!

FEATURES

STRATEGIC LAJES

by Jonathan Smith

Discover the strategic importance of Lajes Airport, a key hub for NATO operations in the Azores, and how it has evolved over the years.

WINTER WONDERLAND

by Sebastian Schmitz

Experience the magic of winter in the snowy mountains of the Alps, and discover the best places to visit for a winter holiday.

NORTHERN HUB

by Jonathan Smith

Discover the importance of the Northern Hub, a key link between the UK and the rest of Europe, and how it has evolved over the years.

AND MUCH MORE

July/August Issue available NOW from
and all other leading newsagents

ALTERNATIVELY, ORDER DIRECT:

Free P&P* when you order online at
www.keypublishing.com/shop

Free P&P when you order online at www.keypublishing.com/shop

EU £5.00 - USA \$2.00 - Rest of World £4.40 (plus postage). All prices include VAT. All prices include postage. All prices include postage.



OR



Call (UK) **01780 480404**
(Overseas) **+44 1780 480404**
Lines open 9.00am - 5.30pm



Also available on



September/October issue available 23 August

Search
Airports of the World

App with FREE NEWS £2.40 IN APP £3.99

App prices subject to change *UK scheduled on sale date



Information
for the
traveller.

Very Busy Manchester

The Aviation and Transport Fair held in and around the Concorde Exhibition at the Visitors Centre at Manchester Airport, UK, on July 14/15 goes from strength to strength – it now covers the whole spectrum of transport including aircraft, trains, cars and other vehicles, such as lorries and buses. There were also a number of military aircraft cockpits on display. Blessed with good weather, the sun attracted the visitors and car parks quickly filled up. Organised by a team from The Aviation Society (TAS), the event was a huge success and they are all to be congratulated for the hard work put in over the weekend. There were even brass bands to entertain the crowds. (Photo Airliner World)



Preserved Friendship



Fokker F-27-500 Friendship, PH-NIV (c/n 10449), has been moved from a temporary parking spot to a new prominent location just outside the gate at the Fokker Logistics Park at Oude Meer, Schiphol East, Holland. It was recently painted by the KLM maintenance group in vintage KLM colours and will serve as a gate guard paying tribute to the Fokker Aircraft work-

ers. Almost all of the former buildings are now gone and a new Industrial park has been built – Fokker Logistical Park – at the same location. It currently plays host to DHL, Kerry Logistics, KLM and many others in the world of international logistics. The F-27 will eventually be displayed in the middle of the small lake next to the entrance gate. (Photo Michael Prophet)

Olympic Flame in Guernsey

As part of the UK tour of the Olympic flame, British Airways' Airbus A319-131, G-EUPC (c/n 1118), was an unusual visitor to Guernsey and Jersey on July 15. It is believed to be the first British Airways' aircraft to visit Guernsey since the days of scheduled Viscount services of predecessor airline BEA and then BA – except for services by BA Cityflyer Express. It is also the first A319 to visit Guernsey – boarding steps had to be delivered by boat to the island because the airport doesn't have any for this size of aircraft, and BA examples do not have internal airstairs. (Geoff Jones)

Rare BBJ

Only a very few pictures of this smart-looking Boeing 737-7JFBBJ, P4-LIG (c/n 37592), exist on the Internet despite the fact it has been flying since 2009. Its main base is Ostrava and it is owned by a company called Orea/Petrofit Air.





**Information
for the
traveller.**

The Future of Flight

The 'Make it in Great Britain Exhibition', which was officially opened on July 24 at the Science Museum in London, is intended to celebrate the success of British manufacturing. It will run throughout the period of both summer Olympics and as part of it, visitors can see how British

factories are contributing to the creation of Airbus aircraft. There's also a section on the future of flight which incorporates the Airbus Concept Plane – an engineer's dream of what aircraft may look like in 2050. The exhibition is free to enter. (Photo Airbus)



Dreamliner Simulator at Farnborough

British Airways' newly upgraded Boeing 787 mobile simulator was at the Farnborough Airshow on July 14 and 15 so that the public could test their flying skills – for a small fee. Proceeds go to 'High Flight', a charity that helps disadvantaged and seriously ill children by enabling them to fly in light aircraft.

In its 26 years, the simulator has modelled a number of types and has been manned by volunteer British Airways pilots, clocking-up more than 25,000 miles visiting airshows, schools, and corporate and

charity events around the UK – the same as flying from London to Paris and back nearly 60 times.

Realistic cockpit controls, impressive visuals and even engine sounds combine to bring this unique experience to life. Upon completion of their virtual flight on the new Boeing 787, customers receive an overall score for their performance, a printed certificate and hopefully a round of applause from friends watching their flight on the simulator's external plasma screen.

Guppy Still Flying



Organisers of enthusiasts' shows and events worldwide are invited to submit relevant details for inclusion in this listing. Free of charge – address correspondence to the editorial department or visit our website at www.airlineworld.com

Sep 9

Berlin Aviation Enthusiasts Convention, Training and Conference Centre Berlin/Schönefeld Airport, Berlin, Germany. Lutz Schönfeld, Tel: +49 (0)306765577

aviation@mediade.de

www.aviationandmedia.de

Oct 6

Vancouver Airline and Aviation Collectibles Show, Oakridge Centre Mall Auditorium, Vancouver, Canada

www.vancouveraviationshow.com

Oct 6

26th Annual Airline and Collectibles Show, Delta Air Transport and Heritage Museum, Atlanta, Georgia, USA Greg Romanoski Tel: (001) 404 715 7886

[greg.romanoski@delta.com](mailto:ggreg.romanoski@delta.com)

Oct 20

Luton Aircraft and Transport Enthusiasts Fair, Vauxhall Recreation Club, Gipsy Lane, Luton, Beds LU13 1JH UK Keith Manning Tel: +44 (0)1372 725063 (Eves)

keith.manning@luton-aircraft.co.uk

www.luton-aircraft.co.uk

Nov 11

Heathrow Aircraft Enthusiasts Fair, Kempton Park Racecourse, Sunbury on Thames, Middlesex, TW16 5AQ, UK. Keith Manning Tel: +44 (0)1372 725063 (Eves) doner657@btopenworld.co.uk

www.heathrow-aircraft.co.uk

Nov 25

Aircraft Enthusiasts Fair and Model Show, Museum of Army Flying, Middle Wallop, Hampshire UK. Mark Roberts Tel: +44 (0) 1264 334779

mark@roberts15803.fsnet.co.uk

2013

Apr 28

LGW2013, the 24th Gatwick International Aircraft Enthusiasts Fair, K2 Pease Pottage Hill, Crawley, West Sussex, UK. Tel: Tom Singfield Tel: +44 (0) 1403252678

LGW2013@gatwickaviationsociety.org.uk

www.gatwickaviationsociety.org.uk

Shows/Displays

Sep 11-16

ILA Berlin 2012, Berlin/Brandenburg Airport, Germany www.ila-berlin.de

Sep 19-21

ERAA, Dublin, Ireland. www.eraa.org

Sep 30-Oct 3

World Routes 2012 Abu Dhabi. www.routesonline.com

Oct 30-Nov 1

NBAA, Orlando, Florida, USA. www.nbaa.org

Nov 13-18

Airshow Zhuhai, China. www.airshow.com.cn

Dec 11-13

MEBA, Dubai

2013

Apr 9-11

Aircraft Interiors Expo, Hamburg, Germany

www.aircraftinteriorsexpo.com

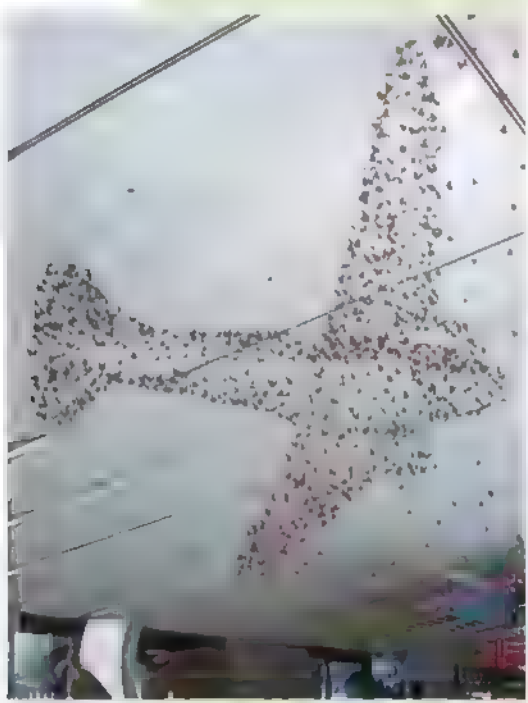
Events are subject to change without Airliner World's knowledge. Please check details prior to travel

On Saturday, June 30, the Museum of Flight, took delivery of the crew section of the Space Shuttle Full Fuselage Trainer (FFT) from NASA. Having received some of the smaller portions by road, from Houston, the main part was flown into Boeing Field, Seattle, Washington via NASA's Aero Spacelines 337SGT (Super Guppy Turbine), N941NA (c/n 004). The flight, 'NASA941', departed Ellington Field in Houston on June 27, and made stops en route at Dyess, Davis-Monthan, March, and Travis, before arriving at Boeing Field. (Joe G Walker)

Information
for the
traveller.

DC-3 Sculpture

The new Terminal 3 at Las Vegas/McCarran International Airport features a remarkable work of art made from small butterfly sculptures cleverly suspended on fine wires to represent the unmistakable shapes of two Douglas DC-3s. Massachusetts-based artist Stu Schechter describes his work as a "3D pointillism, indicating aircraft made out of butterflies." From a distance, viewers see two vintage DC-3s, but up close, they see 3,000 butterflies with lead-free pewter bodies and fluttering polymer wings that form the shapes. A closer look shows that they have airline logos on their wings. (Tom Singfield)



Manchester Tower

"Your photo of Manchester's Air Traffic Control Tower in the 1960s from the August issue brings back memories of a close encounter I had with it. I was a General Apprentice for British European Airways [BEA] at Heathrow in 1960, and was flying home to Manchester for the weekend. Instead of taking the usual Vickers Viscount, I got permission to fly on the Dan-Air York, which operated Heathrow-Manchester-Glasgow-Heathrow every week night. I sat in the navigator's seat, under the astrodome, and soon we were heading off, four Merlins roaring, down Runway 28 Right. What a feeling for a 20-year-old.

"All went well until approaching Ringway, when ATC recommended a left-hand circuit due to strong crosswinds. The captain

insisted on a right-hand circuit to save time, and so as we turned finals, we were blown well off the runway heading. An overshoot was carried out, and as I looked ahead, directly in front of us, and approaching rapidly, was the as yet un-opened ATC facility. I reckon we cleared it by no more than 50 feet! After a left-hand circuit, we landed normally, but the captain was instructed to call the tower supervisor by telephone. I later worked at Manchester for five years, then Heathrow as an aircraft dispatcher, followed by three years at BEA's head office, being responsible for the introduction of the Merchantman Freighter, and the Hawker Siddeley Trident 3. Finally, came 21 wonderful years running the ramp at Hong Kong/Kai Tak. Keep up the good work with *Airline World!*" (Phil Walker, Portugal)

KidZania



The fuselage of this Douglas DC-3-31, N8923E (c/n 45838) is the centrepiece of the KidZania theme park in Santiago, Chile. It now wears the markings of LAN, one of the partners of the project. (Alvaro Roa)

Argosy in Iowa

Located in a remote corner of Sioux Gateway Airport in Iowa is the Mid America Transportation & Aviation Museum, which opened in July 2010. One of the aircraft outside is this ex-Royal Air

Force Armstrong Whitworth Argosy E1, XR143 (c/n 6798). It still retains its military markings, though some have faded through exposure to the weather. (Joe G Walker)



Final Call

Oxygen in Toilets

Power loss led to crash

The Nigerian Accident Investigation Bureau has published its preliminary report into June's accident involving a Dana Air McDonnell Douglas MD-83. The aircraft was completing a scheduled flight from Abuja to Lagos when, according to the report, it "suffered a total loss of power in both engines," and crashed in a residential area to the north of Murtala Muhammed Airport, with the loss of all 153 passengers and crew together with another ten people on the ground.

The report continued by saying that further "Investigative activities will include, but not be limited to, the detailed examination of the engines, further testing of fuel samples, continued factual gathering of relevant historical, operational, maintenance and performance information of the accident aircraft in addition to other similar aircraft models, further investigation into the background of the flight crew, further analysis of the Cockpit Voice Recorder audio recording and review of pertinent issues associated with regulatory oversight".

The report confirmed that the aircraft had enough fuel on board and that analysis of fuel samples taken from the refuelling vehicle and the main supply at Abuja did not reveal any trace of contamination.

ACAS and GPWS Mandates

Russia's Ministry of Transport has issued a mandate for the installation of Airborne Collision Avoidance Systems (ACAS) and Ground Proximity Warning Systems (GPWS) in the Russian commercial air fleet from July 1, 2012. Three years ago, the country's Federal Aviation Regulations (FAR-128) were adopted, paving the way for such installations and these were supposed to come into effect from January 1, 2012. However, Russian airlines asked for more time for their installation.

The Federal Air Transport Agency reports that there are 1,411 Russian-built aircraft (533 aircraft and 878 helicopters) with a certificate of airworthiness. Of these, 1,104 aircraft do not require ACAS equipment according to the requirements and provisions of FAR-128.

Of the 307 domestically-produced aircraft required to have ACAS, 283 aircraft are now so equipped, while 401 – out of 533 – that need a GPWS now have the equipment fitted

AIR SAFETY

Reports and details of recent incidents.

Belly Landing a Boeing 737

The Baltic Aviation Academy (BAA) has released a video 'Boeing 737: Gear-Up Landing' in which one of the Academy's Air Transport Pilot's Licence (ATPL) students demonstrates how to conduct a precise landing without any undercarriage. (The video is accessible via <http://youtube.com/marketingbaa>. It is part of BAA's video tutorials familiarising avia-

tion enthusiasts with various situations on Full Flight Simulators. According to statistics, belly landings are normally not fatal unless executed carelessly in response to demand from aviation enthusiasts and pilots for more information. BAA is producing videos on various aviation topics, interviews, webinars (web-based seminar) etc. (Photo BAA)



DATE	REG'N	C/N	TYPE	OWNER	FATALITIES	LOCATION	NOTES
Jun 22	N508GT	11-1790	B90GT King Air	OZ Gas Aviation	1	USA	Crashed after hitting aerial
Jun 24	EAC 1131	1199	C-208B	Colombian Army	-	Colombia	Crashed en route
Jun 27	RA 76761	0073479401	IL-76MD	Russian Air Force	-	Russia	Severely damaged after heavy landing on nosewheel area
Jun 29	B-3171	0379	B790-100LR	Tianjin Airlines	2	China	Two alleged hijackers killed during foiled hijack attempt
Jun 29	n/k	n/k	MH-53	USAF	-	South Korea	Burnt out in crash landing
Jul 1	93-1458	5363	C-130H Hercules	USAF	4	USA	Crashed on fire-fighting mission
Jul 2	EC-KSJ	36467	Bell 412EP	ENAE	1	Spain	Crashed on fire-fighting mission
Jul 2	EC-JUN	370804	PZL W-3AM	BRF	-	Spain	Crashed on fire-fighting mission
Jul 4	AE-175	380-13	Rockwell Sabreliner	Argentinean Army	-	Argentina	Left mainwheel collapsed on landing
Jul 4	RA-25434	95575	MH-M-8TV	PAF	-	Afghanistan	Crashed on landing
Jul 7	N987GM	LW-65	B90 King Air	Flagstaff Medical Center	1	USA	Broke up in severe weather
Jul 9	8Q-TMT	454	DHC-6-300 Twin Otter	Trans Maldivian Airways	-	Maldives	Partially sank after float holed
Jul 10	G-BZGK	338-17	OV-10B Bronco	Bronco Demo Team	-	UK	Crash landed on airfield
Jul 12	ST-MA7	n/k	Yunshup Y-12	Mauritanian Air Force	2	Mauritania	Crashed soon after take-off
Jul 12	PT-MAB	007	Emb 121	Benjet Taxi Aereo	3	Brazil	Hit the sea whilst on approach
Jul 13	N823GA	1005	Gulfstream IV	Thompson	-	Spain	Overshot runway on landing
Jul 14	SN-MJI	28640	B737-76N	Arik Air	-	Nigeria	Struck wing of C-130 while taxiing
Jul 14	MAF 917	4963	C-130H	Nigerian Air Force	-	Nigeria	Struck by B737 (see above)
Jul 16	n/k	n/k	Mil Mi-17	Sudan Air Force	7	Sudan	Shot down by rebels
Jul 17	N865AS	7507	CRJ200	SkyWest	1	USA	Illegally taken by pilot at night. Crashed while taxiing
Jul 18	CC-CRO	22135	B737-230	Sky	-	Chile	Wing damage on landing
Jul 19	11MP-53E	n/k	11MP-53E	US Marine	-	Malawi	Crashed
Jul 20	n/k	n/k	Bell 212	Brunei Air Force	12	Brunei	Crashed into jungle
Jul 20	n/k	n/k	CH-47 Chinook	RAF	-	Wales	Crash landed after hitting power lines
Jul 22	RF-00138	871908	Let 410	Russian Air Force	-	Russia	Damaged in hard landing
Jul 22	ark	n/k	S-70	Turkish Army	5	Turkey	Crashed after loss of power
Jul 22	N500VA	88-1941	B200 King Air	Weatherbell Aviation	-	USA	Damaged after belly landing
Jul 23	RA-22936	99357688	Mil Mi-8	Yomsh Avia	-	Russia	Rolled over on landing
Jul 25	n/k	n/k	AS532 Super Puma	Eurocopter	4	France	Crashed in a valley on a test flight

Heathrow Trident Collection

The HS121 Trident Three, G-AWZK – when there was space for it at Heathrow Airport.

© Aviation Viewers

Right – The collection includes an extensive reference library as well as an array of models, actual aircraft parts and other memorabilia.

© Aviation Viewers

Many of the collection's artefacts have an historic significance such as parts from the prototype Trident 1, G-ARPA (c/n 2101) which was scrapped in April 1976 at Prestwick in Scotland. (Author)

London's Heathrow Airport is a place steeped in history. However, it seems that – under the name of progress – all of the older buildings which were constructed during the facility's early years of the late 1940s and early 1950s are gradually being flattened and replaced by modern structures. Last year, the famous Queen's Building was demolished and now it is the turn of Heathrow's original and iconic Air Traffic Control Tower.

Along with the demise of so many recognisable features, the airport has seen other significant departures too. The Concorde model that once graced the entrance to the access tunnel for the central area is no longer there, it has been replaced by an Emirates Airline Airbus A380 – and one of Heathrow's most loved residents, Hawker Siddeley HS 121 Trident Three, G-AWZK (c/n 2312), was 'booted off' its home turf owing to the pace of redevelopment at the facility. The aircraft was eventually moved to the Aviation Viewing Park at Manchester Airport where it continues to be looked after today. The owner of Heathrow, BAA, it would seem (unfortunately) has little room for sentiment.



Thankfully, enthusiast Kevin Bowen has stepped forward to help secure some of the area's aviation heritage by establishing The Heathrow Trident Collection. Located in Feltham –

approximately 3 miles (5km) from the airport itself – the collection, which first opened its doors in 2008, provides a nostalgic insight into the history of British European Airways (BEA) and British Airways (BA) through the 1960s, '70s and '80s. However, the main focus concerns the development and operations of the Trident. The type's history and career with BEA/BA is told through memorabilia, photographs, models and actual aircraft parts. Key items include a functioning flightdeck centre console and systems station, as well as a complete galley from a Trident 1 and a partial cabin section, complete with seats, side panels and windows from Trident 3, G-AWZU (c/n 2321) which operated the type's last BA international service on December 31, 1985. The collection also has parts from the prototype aircraft which was scrapped in 1976, as well as many other Trident items of interest. Additionally there is an extensive reference library which would be of interest to both researchers, and enthusiasts alike. The collection can only be accessed by appointment. To book a free visit, please call 0208 867 2701 or 07733 303604 or alternatively send an e-mail to: g-awzk@msn.com

Kevin Bowen





AUGUST ISSUE OUT NOW

FEATURING:

KC-135Q - Fuelling the secret SR-71 missions

Lt Col Erik C Swanson (ret) describes his experiences flying the KC-135Q.

Harrier Heritage

Pilot Officer Robert Maude and Darin Tudor describe collections at RAF Wittering.

Wonderful Waddington

Dino Carrara describes a memorable airshow.

AND MUCH MORE!

August issue available NOW from all leading newspapers

ALTERNATIVELY, ORDER DIRECT:

Order online with FREE P&P* at
www.keypublishing.com/shop

*FREE P&P UK & BPO only on orders up to £15.99 EU £19.99 USA £2.99. NOW £1.99. Postage charges may vary depending on the order value.



OR



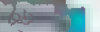
Call UK 01780 480404

Overseas +44 1780 480404

Lines open 9.00am - 5.30pm GMT



Also available on



*September issue available - 6 August

*App prices subject to change

NEW MILITARY AVIATION WEBSITE

AirForces

FREE
24 HOUR
TRIAL*

From the **AirForces Monthly News Team**, it's the **NEW** online military aviation news channel and reference resource. Available by subscription only, members receive access to exclusive online content, including:

Breaking
News
Reports

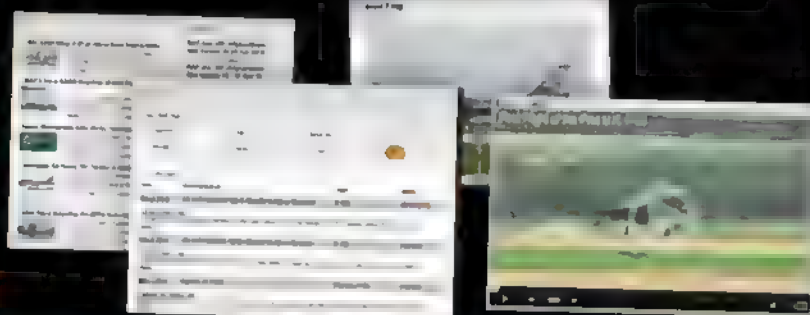
Searchable
Attrition
Database
Going Back
to 2000

Insider
Reports,
Video
and Photos

Exclusive
Articles and
Features

Combat
Ops,
Exercises
and Training

Air Force
Reports and
Independent
Surveys



Access to all this exclusive content starts from £4.99 with further discounts on longer term subscriptions. What's more, current **Airliner World subscribers** receive further special discounts with monthly subscriptions starting at £2.49 per month.

To take advantage of this offer, register now at:

www.airforcesdaily.com

IT'S MILITARY AVIATION AT YOUR FINGERTIPS!

*Terms and conditions apply, see website for details

AIRLINER WORLD MAGAZINES.
No. 1 to 2011 Complete.
Good condition £80.
Buyer collects. Surrey
Tel 01293 863127

THE AVIATION PHOTO COMPANY
www.aviationphoto.com
Every month our Photo List features thousands of air photos and
Visit our website or contact us at:
The Aviation Photo Company 18 Milpitt Furlong,
Little, CB8 1HT, United Kingdom
maria@aviationphoto.com

THE LUTON AIRCRAFT & TRANSPORT ENTHUSIASTS FAIR
Saturday 20th October 10.30/15.00. Vauxhall Recreation Club, Gipsy Lane, Luton. LU1 3JH
Close to M1 Junction 10A. Opposite Luton Airport Parkway Station
www.aircraftenthusiafsair.co.uk 01372-705063

DVD's of Airliners at airports around the world 1997 to 2012 Over 100 titles All three hours
plus. Dvds £12 each Free p+p. See www.airlinerdvd.co.uk or telephone 0161 366 6628

Aviation Emporium

Main Terminal, East Midlands Airport, Derby, DE74 2SA
Tel: 01332 818435
aviationemporium@gmail.com

Corgi Military, Inflight 200's, Gemini jets 1200 and 1400,
Dragon Wings 1:400, Herpa 1:500's and many more makes
We have many books and magazines in stock
Pop in and see us
Open everyday, located opposite the check-in desks

The printed magazine is full colour

Available from
September 2012

1 Year subscription for only €26.99

Scramble

Your magazine on a tablet or smartphone!

Visit:
www.scramble.nl
for details

And coming soon
The Scramble database app



Aviation Postcards

- **Biggest stock of aviation postcards world-wide**
Over 20 000 modern aviation postcards in stock: commercial, military, airports, etc.
Check our website for available postcards
Order our FREE MASTER CATALOGUE and FREE LISTS of new issues
- **Auctions of rare postcards**
Frequent auctions of rare civil airliner postcards. Order our FREE LISTINGS
- **Postcard Calendars**
Published since 1995 with rare postcards and great shots of wide-bodies in action

jjpostcards

website: www.jjpostcards.com
E-Mail: order@jjpostcards.com

Alte Bergstrasse 14
8303 Bassersdorf
Switzerland

Fax +41 44 836 88 19

The Homepage of Aviation

All the latest aviation news
from around the world

From Europe Key news
From the USA Key news
From the Middle East Key news
From the Far East Key news
From the South America Key news
From the Africa Key news
From the Australia Key news
From the Antarctica Key news

From the Airports Key news
From the Airlines Key news
From the Aircraft Key news
From the Airports Key news
From the Airlines Key news
From the Aircraft Key news

From the Airports Key news
From the Airlines Key news
From the Aircraft Key news
From the Airports Key news
From the Airlines Key news
From the Aircraft Key news


From the Airports Key news
From the Airlines Key news
From the Aircraft Key news
From the Airports Key news
From the Airlines Key news
From the Aircraft Key news


From the Airports Key news
From the Airlines Key news
From the Aircraft Key news
From the Airports Key news
From the Airlines Key news
From the Aircraft Key news

From the Airports Key news
From the Airlines Key news
From the Aircraft Key news
From the Airports Key news
From the Airlines Key news
From the Aircraft Key news

ADAM Jets
www.ADAMjets.com

Fly your TRIPS, Make Your MONEY
Fly your TRIPS, Make your MONEY

www.AIR400MODELS.COM

Die cast plane models
 scale 1:72, 1:200, 1:400 and 1:500
Metallflugzeugmodelle
 Masstab 1:72, 1:200, 1:400 und 1:500



Model aircraft
airspotters.com

Die cast models in scale 1:500 1:400 1:200

www.aviation-center.eu

Aviation Center
Berlin



**TO ADVERTISE IN OUR
WEB DIRECTORY SECTION**
please call **CHARLOTTE BREWSTER** on **01780 755131**

AVIATION RETAIL DIRECT

→ Aircraft models → Books → DVDs

10 Sutton Court Road
Hillingdon, Middlesex
UB10 9HP, Tel: 01895 231 707

BAA Academy, Newall Road
Heathrow Airport
TW6 2AP, Tel: 0208 759 8759



ARD

www.AviationRetailDirect.com



News



AIR-BRITAIN NEWS MONTHLY
 Registration news & changes
 Worldwide £38pa (uk)
 Accounts of up to £1000
 Air-Britain published books
QUICK REFERENCE BOOKS from
 £.98 include Airlines Fleets, Schedules
 & UK registers 150 new books per
 year
 Members only e-mail info group

www.air-britain.com

From Flying Boats to the A380!
Over 175 Silk-Screened T-shirts!
www.skyshirts.com
All at USA \$ Prices!

It's easy to advertise with classifieds

Rate only 90p per word (inc. VAT) Minimum £9.00. *E-mail and web site addresses £3.50 each. *Cheques/POs payable to Airliner World. All copy and box number replies must be addressed to: **Charlotte Brewster, Classified Sales Executive, PO Box 100, Stamford, Lincolnshire, PE9 1NQ.** Phone 01780 755131 or Fax 01780 751323. E-mail: charlotte.brewster@keypublishing.com Please note that we cannot accept advertisements without the name and address of the sender (for reference only). We also reserve the right to edit or amend copy as appropriate.

PLEASE INSERT FOR MONTHS, STARTING WITH ISSUE

Payment by cheque (payable to Airliner World)

Visa

Mastercard

Switch

Card No

Expiry date

Issue No

Name _____

Address.....

Postcode _____ Tet _____ Signature _____

MAIN HEADING

CANADIAN CH

During the 1970s, '80s, '90s and to a lesser extent the last decade, when visiting any of the major airports in Canada, it was pretty much a cast-iron guarantee that you would see one of the many, often colourful, Canadian charter carriers. These companies were servicing the needs of holiday and expat visitors to what is the second largest country in the world – in terms of overall landmass. Unfortunately, and with due respect to Air Transat, those days are now long gone. So over the next few pages we will take an affectionate look back over 40 years to revisit some of the many airlines that could be seen during this period, and which sadly, have now disappeared from the skies.

Wardair Canada (WD/WDA)

This Canadian bush operator's history goes back to 1946 when Maxwell Ward started flying from Yellowknife and Edmonton as the Polaris Charter Company with a single de Havilland DH 53C Fox Moth, providing services in support of the rapidly developing mining industry in the Yukon and Northwest Territories. After these proved successful Maxwell decided to

Martin Cartledge looks at a fascinating period of airline development in Canada, which included the evolution of the charter carriers.



form his own airline in 1952, naming it Wardair Ltd. Using the DHC-3 Otter he remained loyal to his bush-flying roots, that is until he changed the firm's name to Wardair Canada in 1961 to reflect a new direction for the business.

In the spring of 1962, the carrier entered the charter business and leased

its initial large aircraft, a four-engined Douglas DC-6 from Canadian Pacific Airlines. It launched its first charter passenger flights in southern Canada, with a return rotation from Calgary to Ottawa on May 10. However, Maxwell was determined not to restrict the carrier to simply operating charters within

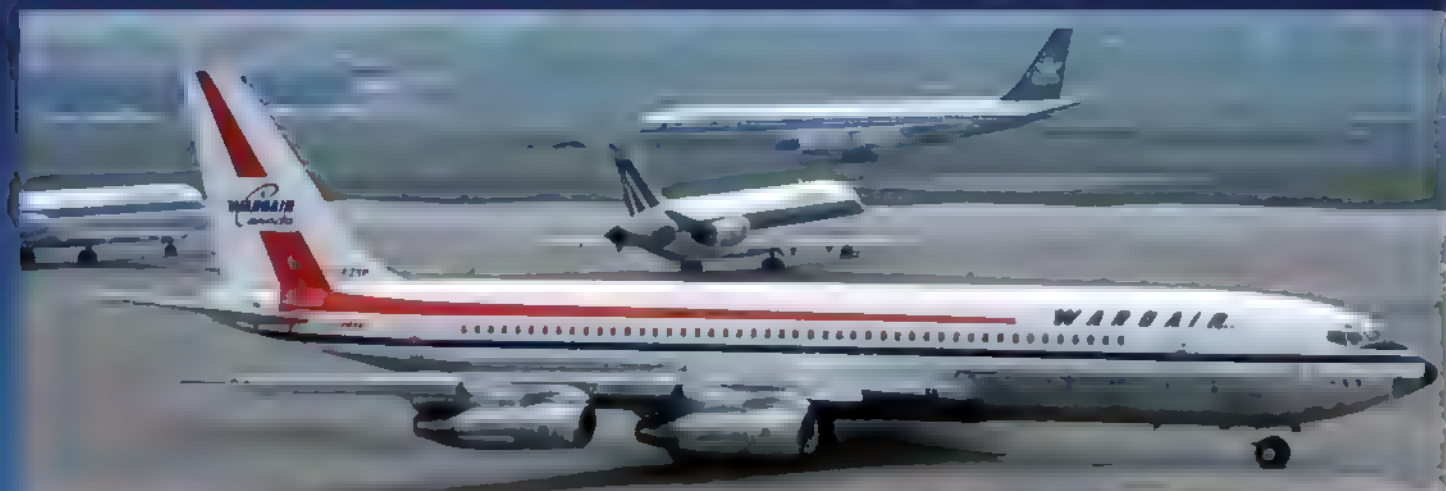
THESE COMPANIES WERE SERVICING THE NEEDS OF HOLIDAY AND EXPAT VISITORS TO WHAT IS THE SECOND LARGEST COUNTRY IN THE WORLD

Both ends of the scale: in the background is one of Wardair Canada's Boeing 747s, while in front is de Havilland DH 53C Fox Moth, CF-DJB. This aircraft was donated by Maxwell Ward, to the National Museum in Ottawa. (Above)

This Convair 640 was acquired by Worldways Canada from Pacific Western Airlines in May 1976. It remained with the carrier until November 1982 when it was sold to Wright Air Lines and became N860W. (Below)



ARTER AIRLINES



to the warmer climes of Mexico and California during the winter.

fitted with additional fuel tanks to enable it to fly across the Atlantic. A



Far right • Douglas DC-8-62, C-GMXY (c/n 45920) of Canadian charter carrier Nationalair taxiing at Hamilton International Airport in June 1989. On the top of the aircraft's fuselage is a message advertising the carrier's daily rotation between Montreal/Mirabel and Brussels, which started in May 1987.

Artteamimages.com

Below • Taxiing at Toronto International Airport in July 1981 is this CP Air Boeing 727-217, C-GCPA (c/n 21055) named Empress of San Francisco. The aircraft was later leased to Dan-Air in April 1982 becoming G-BKAG; it was purchased by the Gatwick-based carrier two years later. Artteamimages.com

Artteamimages.com

Canadian Pacific Airlines Douglas DC-6B, CF-CZU (c/n 45328), Empress of Honolulu, was delivered on June 17, 1957 and remained with the company until it was sold in November 1969. Artteamimages.com

were boosted by the arrival of two 707s in 1968 enabling it to make non-stop flights, which were further enhanced by the delivery of a 747 five years later. Initially, long-haul rotations were flown from Edmonton but these were later moved to the major population centres of Vancouver and Toronto. Hawaii became a winter destination, while in the summer, London was added to its network.

During 1976 it underwent a reorganisation when Wardair Canada became a division of Wardair International, a holding company that also had interests in hotels and tour operators. The airline was a small, steadily-growing enterprise, but was not a discount carrier; instead it preferred to be known for providing good services at a lower-than-average price. It was also gaining a reputation for the high quality meals it provided and its friendly staff. The aircraft's seats featured a generous pitch, and it is remembered as one of the most luxurious Canadian carriers flying at the time.

By the mid-1980s Wardair Canada was at the height of its popularity, providing domestic links throughout Quebec,

Manitoba, Ontario, British Columbia and Alberta, as well as serving international destinations in the US (Fort Lauderdale, Honolulu, Miami, Orlando and Tampa), the Caribbean, South America and Europe (Frankfurt, Glasgow, Manchester and Gatwick) and carrying, on average, 1.25 million passengers per year.

By the mid-1980s Wardair Canada was facing some difficult challenges. It changed from charter flying to become a scheduled service provider, but problems with its computer booking system severely affected seat sales. This, combined with its failure to attract sufficient business customers away from the frequent flyer programmes of competing airlines, threatened its finances. Its precarious position was exacerbated by a planned expansion of its network and fleet. It placed orders for 38 new aircraft including 14 Airbus A310s, 12 McDonnell Douglas MD-80s and 12 Fokker 100s a remarkable increase given that its fleet only totalled seven at the time. The exponential growth of its operations ultimately proved unsustainable, and it ran into serious financial difficulties, which ultimately

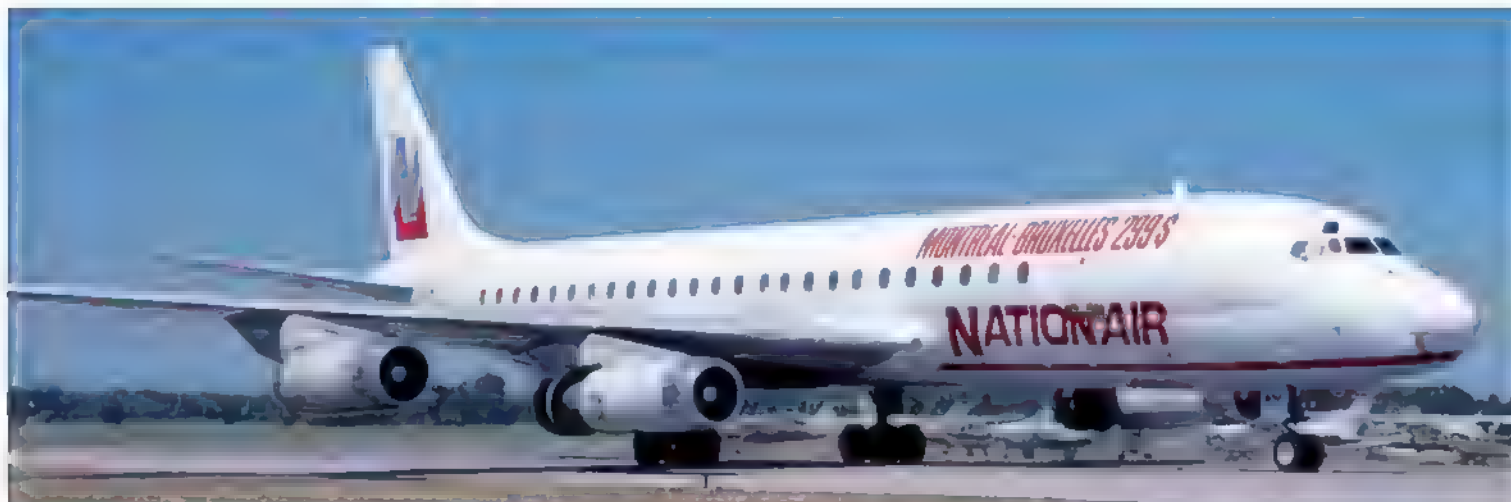
resulted in the Canadian Transportation Agency approving the sale of Wardair Canada to Canadian Airlines on March 31, 1989. Only the first 12 A310s had been delivered at the time of its sale; all of the remaining orders were cancelled.

CP Air (Canadian Pacific Air Lines) (CP/CPC)

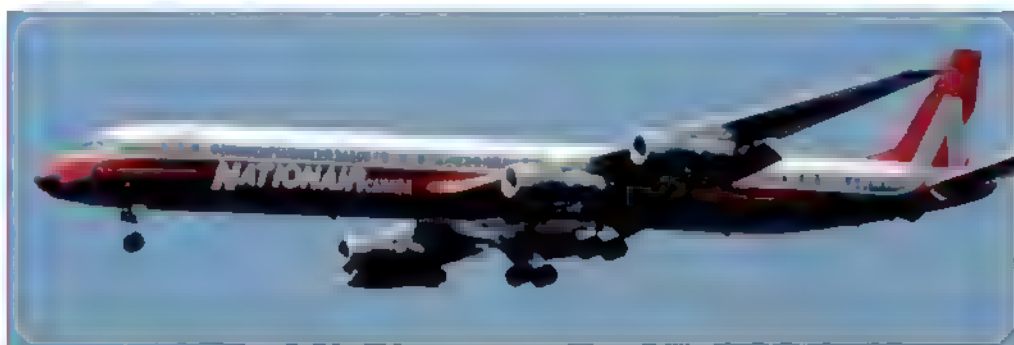
Canadian Pacific Air Lines (CPAL) was formed in 1942 by the amalgamation of ten bush operations – Arrow Airways, Canadian Airways, Dominion Skyways, Ginger Coote Airways, Mackenzie Air Service, Prairie Airways, Quebec Airways, Starratt Airways, Wings Ltd and Yukon Southern Air Transport – when they were acquired by the Canadian Pacific Railway Company. The new airline had a fleet of around 120 aircraft from over 20 different manufacturers. During World War Two it carried out a lot of flying on behalf of the RAF and United States Army Air Force; CPAL pilots ferried many C-47s, C-54s transports and B-17 Flying Fortress bombers across the Atlantic. The company faced a major task after the end of the war, that of rationalising its entire fleet, reducing both the types and numbers of aircraft to more manageable proportions. It launched its first flights using just three types, Canadair C4 Argonauts, DC-3s and DC-6s.

The early management team consisted mainly of the bush flying pioneers from the amalgamated carriers, including its charismatic first President, Grant McConachie. The Redgling airline faced strong competition for route licences from Trans Canada Air Lines (later becoming Air Canada) with many decisions going in favour of the state-owned company. CPAL was forced to fly less lucrative routes as the federal





**"MAXWELL WARD
WAS DETERMINED
NOT TO RESTRICT
THE CARRIER TO
SIMPLY OPERATING
CHARTERS WITHIN
CANADA'S BORDERS."**



government established limits on its domestic market share, while restrictive international agreements also dictated which countries it could fly to. This barred it from many destinations, such as to London and Paris, while also limiting its access to major North American routes, including Vancouver-Toronto and Toronto-New York, which forced it to develop alternative overseas links.

Despite its battles to gain market penetration, it eventually found its

niche and became very successful. The evolution of the 'great circle' (also known as the polar) route enabled the carrier to fly over the North Pole (it was the second operator after SAS to do so) on services to Europe and the Far East. McConachie managed to secure rights to Amsterdam, Sydney, Hong Kong and Shanghai, which helped the company's revenues to grow from \$3 million in 1942 to \$61 million by 1964. Flights to Sydney and Hong Kong via Tokyo started in 1949 using

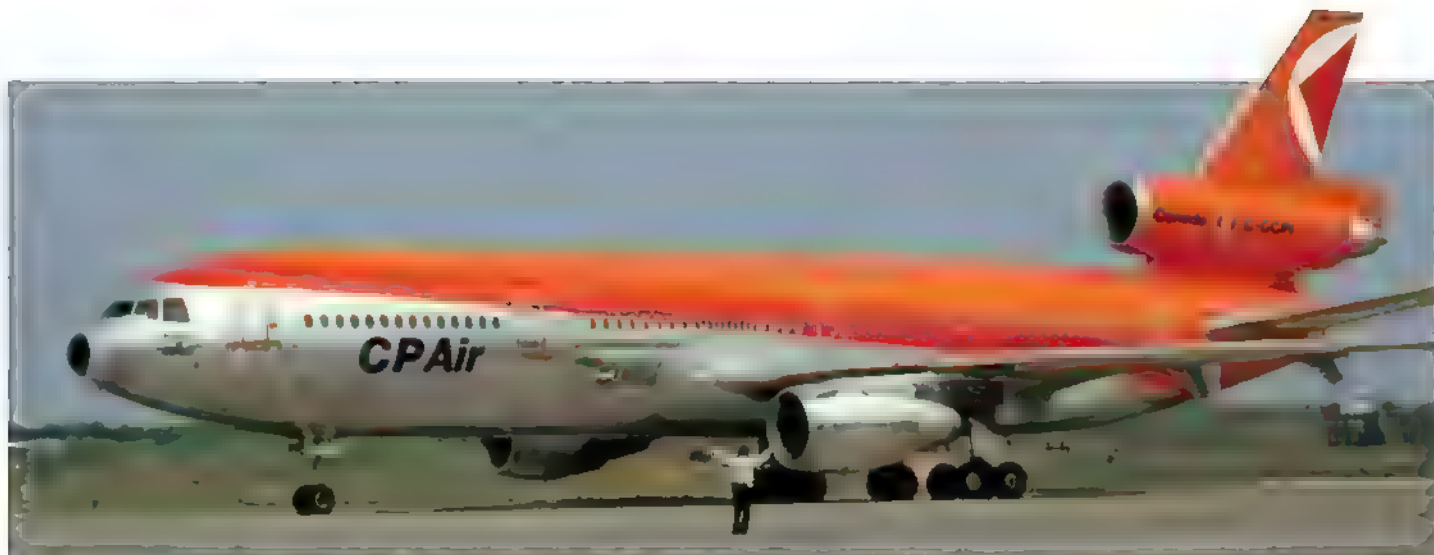
Pictured on final approach to Gatwick Airport is Nationalair Douglas DC-8-61, C-GMKB (c/n 45943). The aircraft had previously flown with Eastern Air Lines and Japan Air Lines before joining Nationalair in December 1984.

*By Peter
Woodward, Montreal*

the Argonauts, which were then replaced by DC-4s three years later and then by DC-6Bs in 1953, while rotations to Lima, Peru began the same year and were extended onto Buenos Aires, Argentina in 1956. During the same year CPAL began replacing its DC-6s with turboprop Bristol Britannias.

CPAL entered the 'jet age' on March 25, 1961 following the arrival of the first of three DC-8s which it introduced into service on its Vancouver to Honolulu >>





link, while Amsterdam followed a month later. The airline was rebranded in 1968 to CP Air after its parent, the Canadian Pacific Railway Company (itself renamed Canadian Pacific Limited in 1971) had decided to align the carrier's name and logo to that of its other subsidiaries, including CP Hotels, CP Ships and CP Transport (CP Rail). At the same time each division was given a new look, and its own dominant colour, CP Air's being orange - it adopted the tag line 'Orange is Beautiful' for its advertising and promotional campaigns. The first aircraft to wear the revised livery was the carrier's first 737-217, CF-CPB (c/n 19884) which was delivered on October 21, 1968. The introduction of Boeing's new baby jet spelled the end for its remaining propeller-driven types which were progressively retired.

Despite CP Air struggling to gain a licence to fly scheduled services to Europe, it did manage to develop an extensive charter network (mainly during the summer months) to destinations

in Britain, France, Germany as well as many other European points which permitted the carrier to gain a foothold in these markets. CP Air celebrated the arrival of its first wide bodied airliner in 1973, in the shape of the 747 which was supplemented six years later by DC-10-30s. Later the same year the Canadian Federal Government finally removed all limitations on the carrier, allowing it to compete for any routes.

It had lobbied hard for this freedom and it now scrambled to upgrade its fleet to facilitate expansion into the newly available routes, including non-stop services from Vancouver to Hong Kong and Shanghai. In 1985 the carrier exchanged four 747s for more DC-10s with Pakistan International Airlines (PIA) - with the addition of extra fuel tanks, the range of the type was increased and CP Air became one of the largest operators of the type. It was also adding more rotations to its then current routes, such as Amsterdam, Rome, Tokyo and Sydney, as it prepared for increased

competition from Air Canada. The fleet expansion came at huge cost and created a \$1 billion debt, which with increased competition, and the economic downturn in Asia at this time, would work against CP Air in the future.

During the turmoil of deregulation of the Canadian commercial aviation industry in the mid-1980s, CP Air seized the opportunity to expand both its domestic market share and route network by forming partnerships with smaller feeder airlines, including AirBC, Eastern Provincial Airways and Nordair, the latter two eventually being amalgamated into the company. In early January 1986, CP Air announced it was rebranding and reverting to its original name of Canadian Pacific Air Lines, as well as phasing out its orange livery, replacing it with a new navy blue colour scheme and revised

CP Air aircraft were colourful visitors to the UK. Here Douglas DC-10-30, C-GCPI (c/n 48296) has just been pushed back from its stand at Birmingham International Airport in May 1982

Worldways Canada leased this Lockheed L-1011 TriStar, N336EA (c/n 1143) for four months between June and October 1990. The aircraft retained its Eastern Air Lines' livery, but carried Worldways titles on the forward fuselage. (All images from

"DURING QUIETER PERIODS, NATIONAIR TRIED TO MAXIMISE THE USE OF ITS AIRCRAFT AND ENTERED INTO A NUMBER OF SUB-CONTRACTS."





logo. Later that year it became the first North American carrier to operate a non-stop service to mainland China with a weekly rotation to Shanghai.

The rebranding of the entire fleet was to be completed over a three-year period; however, the task wasn't completed because in 1987 CPAL was acquired by Calgary-based Pacific Western Airlines for \$300 million. The merger of both led to the formation of Canadian Airlines International in April 1987.

Holidair Airways (HOQ)

Based in Edmonton, Alberta, Holidair Airways was a wholly-owned subsidiary of Travel N' Save Holding Company of Toronto, and had a fleet of five DC-8-50s, although it appears the carrier only operated one of the jets with any regularity, C-FHAB (c/n 45658). It carried a livery of a dark blue upper and grey lower fuselage with cheat lines alternating gold, dark blue, gold and dark blue again. Its name was carried on the forward upper fuselage

Taxiing to the runway at Birmingham International Airport is this Worldways Canada Lockheed L-1011 TriStar, C-GIFE (c/n 1079).
Airtamimages.com
Keith Blom

Below - Pictured at Toronto International Airport in February 1998 is Royal Airlines' Boeing 737-242C, C-FNAQ (c/n 20455), which was acquired by the carrier in December 1997.
Airtamimages.com

Bottom - Before joining Royal Airlines, this Boeing 727-212 operated with Singapore Airlines (9V-SXC) and Dan Air (G-BHVT). It was bought by Conifair Aviation in November 1992 and leased to Royal for seven years.

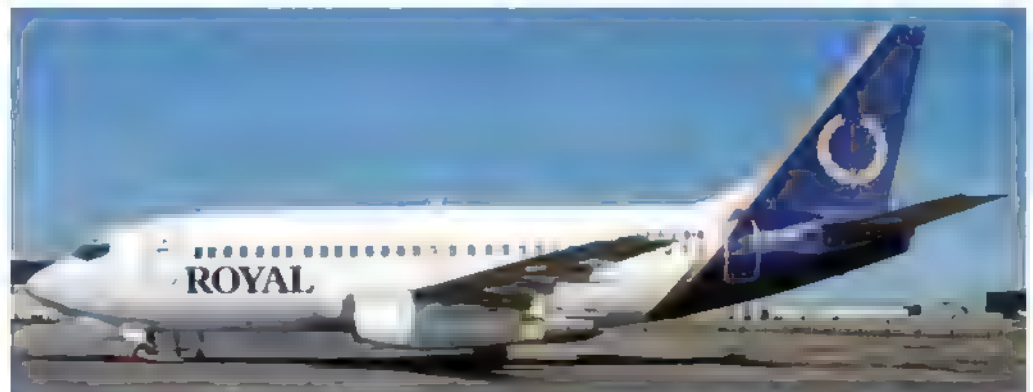
in white, with a large golden maple leaf on the tail. It was preparing to launch its inaugural flights in mid-December 1988 but a problem sourcing its first DC-8 forced Holidair to use wet-leased aircraft and American crews for these early services, with a 727 and Lockheed L-1011 TriStar being chartered from the US. Finally, in late December its DC-8 was finally delivered and it started flying between Calgary and Los Vegas. It also operated rotations to Cancun, Mexico and Honolulu, Hawaii. However, when its parent company collapsed in October 1989 this had the inevitable knock-on effect, and Holidair Airways ceased trading shortly afterwards.

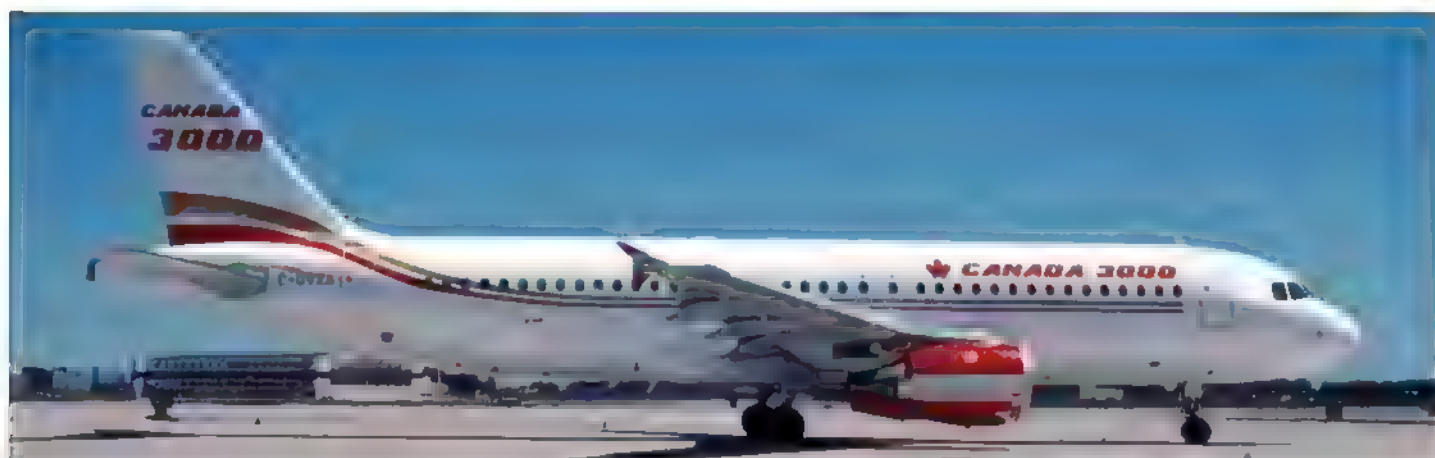
Nationalair (NX/NXA)

Nationalair was founded in 1984 and launched its first service in December that year flying from Montreal to Haiti using a DC-8. It operated throughout the late 1980s and early 1990s from bases in Montreal and Toronto as well as flying seasonal flights from Quebec City

and Hamilton, Ontario. At one point, Nationalair was Canada's third largest carrier, after Air Canada and Canadian Airlines International. Destinations during the winter months were mostly to the warmer climes of Florida, the Caribbean, Mexico and South America for the so-called snowbirds - people who spend a large portion of winter in warmer locations. Its summer services included Vancouver and Calgary, as well as a heavy emphasis on European destinations - mainly England, Scotland, Portugal and France. It started a year-round scheduled daily rotation between Montreal/Mirabel and Brussels on May 3, 1987 and a year later, launched a Hamilton to Gatwick link.

The company attempted to compete head-to-head with Air Canada and Canadian Airlines International by offering scheduled flights between Toronto and Montreal with cheaper fares and flexible ticket conditions, but its rivals reacted to the challenge by cutting their prices, forcing Nationalair >>





to terminate its service. Its fleet was upgraded by the arrival in the summer of 1990 of the first of two 757s acquired from another charter carrier, Odyssey International, which had gone out of business earlier in the year. The jet's arrival marked the introduction of a revised livery for its fleet – the colourful red and grey colour scheme was replaced with overall white, and just the company's logo sported the old colours. Soon after this, Nationair received its first wide-bodied airliner following the delivery of its initial 747.

During quieter periods, Nationair tried to maximise the use of its aircraft and entered into a number of sub-contracts. Its fleet was particularly busy transporting troops and freight in the run-up to the first Gulf War, and it was also used by the United Nations to move troops into Namibia as well as offering Hajj flights on behalf of Nigeria Airways in 1991. Unfortunately, while operating Flight No 2120 on behalf of the African carrier, its DC-8-61, C-GMXQ (c/n 45982) suffered hydraulic problems shortly after take-off. It crashed while attempting to return to King Abdulaziz International Airport, Jeddah with the loss of 261 lives, including the 14 Canadian crew members. The cause of the accident was found to be under-inflated tyres, which overheated and caught fire and in turn caused the hydraulic systems to fail.

The accident only served to further damage Nationair's increasingly poor reputation with passengers and tour

This Airbus A320-211, C-GVXA (c/n 397) was leased from International Lease Finance Corporation until the carrier suddenly collapsed on November 8, 2001 without warning, leaving 50,000 of its passengers stranded and its fleet grounded at airports around the world.

Airline operator: **Canada 3000**

Registration: **C-GVXA**

Manufacturer: **Airbus**

Year: **1990**

Engine: **CFM56-3C**

Capacity: **150**

Notes: **Leased from ILFC**

Operator: **Canada 3000**

Registration: **C-GVXA**

Manufacturer: **Airbus**

Year: **1990**

Engine: **CFM56-3C**

Capacity: **150**

Notes: **Leased from ILFC**

Operator: **Canada 3000**

Registration: **C-GVXA**

Manufacturer: **Airbus**

Year: **1990**

Engine: **CFM56-3C**

Capacity: **150**

Notes: **Leased from ILFC**

Operator: **Canada 3000**

Registration: **C-GVXA**

Manufacturer: **Airbus**

Year: **1990**

Engine: **CFM56-3C**

Capacity: **150**

Notes: **Leased from ILFC**

Operator: **Canada 3000**

Registration: **C-GVXA**

Manufacturer: **Airbus**

Year: **1990**

Engine: **CFM56-3C**

Capacity: **150**

Notes: **Leased from ILFC**

operators alike. These difficulties were compounded by a union dispute lasting 15 months and by the time this was settled the airline found itself in a parlous financial position, owing the government millions of dollars in unpaid landing fees. The company disposed of several aircraft that it owned and withdrew from the scheduled market, claiming that offering low prices was simply not profitable. However, with no likelihood of salvation, Nationair's management was left with no alternative

– it filed for bankruptcy protection in March 1993, and just a month later ceased flying for good.

Worldways Canada (WG/WWC)

Worldways Airlines was founded in 1974 by Roy T Moore in Toronto with the specific intention of operating as a charter company, flying both passengers and cargo. It launched its first freight and courier services in 1975 using a pair of Gates Learjets and a DC-4. The following year the fleet was increased by

One of the smaller Canadian charter operators, Crownair was formed in 1984 and started operations using this Douglas DC-8-52, C-FCRN (c/n 45752).

Airline operator: **Crownair**

Registration: **C-FCRN**

Manufacturer: **Douglas**

Year: **1964**

Engine: **JT8D-9**

Capacity: **189**

Notes: **Leased from ILFC**

Operator: **Crownair**

Registration: **C-FCRN**

Manufacturer: **Douglas**

Year: **1964**

Engine: **JT8D-9**

Capacity: **189**

Notes: **Leased from ILFC**

Operator: **Crownair**

Registration: **C-FCRN**

Manufacturer: **Douglas**

Year: **1964**

Engine: **JT8D-9**

Capacity: **189**

Notes: **Leased from ILFC**

Operator: **Crownair**



the introduction of two Convair CV-640s, which became popular for sporting team charters. The carrier's inaugural transatlantic flights were launched on June 21, 1981 from Toronto to Terceira in the Azores using a former British Caledonian 707 and were later extended to London, Paris and Frankfurt.

By now it had changed its name to Worldways Canada and had acquired two further 707s before replacing all three with DC-8-63s in 1983. One of these were chartered by the Canadian Department of Defence in 1986 for troop transport flights, flying regularly between Trenton and Lahr, Germany via Gatwick. Additional long-term charter contracts were signed with Echo Bay Mines which saw the Lockheed L-100 Hercules being added to its fleet, and Petrocanada in Newfoundland which used a CV-640 for supply runs. The carrier's first widebody aircraft was introduced into its fleet in June 1985 in the form of

an L-1011 TriStar. It eventually operated four of the type on services to Europe, the Caribbean and to Central America.

In common with many carriers at the time, the worldwide recession had a dramatic effect on Worldways Canada, routes were dropped, staff made redundant and its finances suffered. The company's continuing monetary difficulties first led to the suspension of all services at the end of October 1990 and then into bankruptcy at the beginning of 1991.

Royal Airlines (OQ/ROY)

Royal Airlines was established in 1991 by Michel Leblanc as a division of Royal Aviation based at Montreal/Dorval International Airport (known as Montreal/Pierre Elliott Trudeau International today). Over the next decade the carrier built up its fleet, operating 757s, A310s and L-1011 TriStars and, surprisingly, even used 727s on charter flights across the Atlantic to destinations in the UK and Europe. However, a decade after it launched its first services, the company was struggling and according to analysts at the time, it had few options and little time left, so it agreed to merge with Canada 3000. Leblanc became Vice-Chairman of the merged company, but he only held the post for a few months – apparently owing to a bitter feud.

It took a significant period for Royal's aircraft to be re-painted into Canada 3000's livery, and during this spell many wore a hybrid scheme consisting of the new titles over the original tail design.

Canada 3000 (2T/CMM)

From its bases in Toronto and Montreal, Canada 3000 was a Canadian discount charter carrier that offered domestic and international flights, and grew to become the largest charter airline in the world at the height of its operations, flying to more than 90 destinations worldwide. It was created in 1988 by the British company Air 2000, initially to utilise some of its fleet for the Canadian charter travel market during the typically slack time of the European winter. However, the British company was denied a licence by the National Transport Agency (NTA) because of its control and ownership by a UK business. As a result, Air 2000 relinquished ownership, and the now Canadian-owned carrier started flying in December of that year. In May 1989, by order of the NTA, the company changed its name to Canada 3000. A year later it was acquired by Vacationair and, following the demise of Wardair in 1991 it achieved its goal of becoming Canada's largest charter carrier.

In 2000, Canada 3000 became a public limited company and the following year it went on a shopping spree, >>

Epilogue - The first Airbus A330-202, C-GGWB (c/n 211) was delivered to the former charter airline Canada 3000 under a lease agreement with International Lease Finance Corporation (ILFC) in April 1998. The aircraft was operated across the carrier's long-haul network until its collapse in November 2001. The A330 was impounded at Manchester Airport by owners ILFC.

An evocative picture of one of Canadian Airlines International's Boeing 747-475s, C-FRCR (c/n 24895) turning over Kowloon, Hong Kong on its approach into Kai Tak International Airport.

"ITS FLEET OF 747S WAS EVENTUALLY NAMED AFTER FAMOUS CANADIAN AVIATION PIONEERS INCLUDING GRANT MCCONACHIE, MAXWELL WARD AND T RUSS BAKER..."





buying Royal Airlines of Montreal and CanJet Airlines. Following the merger of Canadian Airlines International with Air Canada, Canada 3000 started flying scheduled services, and in October 2001, it became the first carrier to fly non-stop rotations from North America to India.

On November 8, 2001 the company suddenly collapsed without warning, leaving 50,000 of its passengers stranded and its fleet grounded at airports around the world. It had no option but to file for bankruptcy becoming one of the first carriers to succumb following the September 11 terrorist attacks on the US. This was rather ironic as the day before the atrocities it had achieved record bookings in a single day, but the fall in demand that followed was just too much.

Moves were made to try to save it; the Canadian Government offered a \$75 million loan guarantee under the condition that a "viable business plan" was produced. At the time of its demise Canada 3000 was in \$260 million debt and had limited cash reserves. It held secret talks with the unions to try to help reduce its costs, but the offers made were simply not enough and the airline applied for bankruptcy protection. Irony struck again – on the very day Canada 3000 stopped flying, Canada's Transport Ministry ruled in favour of the carrier in a dispute with Air Canada's rival low-fare start-up, Tango, which had been competing unfairly, but the decision came just too late to save the airline.

Canadian Airlines International (CP/CDN)

Canadian Airlines International was formed in 1987 when the small regional carrier Pacific Western Airlines announced it was purchasing Canadian Pacific Air. The combined operation unveiled a new livery of light and dark grey, navy blue and red with a stylised title of Canadi>n which was a clever alternative for the company's bilingual name – Canadian/Canadien. In 1989, in

Another Canadian charter operator was Ontario Worldair, which was formed in 1978. This Boeing 707-338C, C-GRYN (c/n 19623) was leased from ITEL Corporation between November 1978 and January 1981 when the carrier ceased all operations. The company's management went on to form Crownair.

Pacific Western Airlines.

Following approval by the Canadian regulatory authorities in 1995, AMR Corporation (parent of American Airlines) took a 33% shareholding in Canadian Airlines Corporation. The carrier adopted a short-lived re-brand in January 1999, less than a year before it merged with Air Canada. Known as 'Proud Wings' the livery featured a large Canada Goose painted on the tail, with the company's name appearing in a revised font. However, subsequent events meant that the new livery was short lived and appeared on very few aircraft.

During the latter half of 1999 there were fierce takeover battles being fought between the major Canadian carriers. Together with its partner AMR, Canadian Airlines attempted to acquire a majority stake in Air Canada, but eventually the national flag carrier, with help from its financially strong Star Alliance partners, was able to turn the tables by acquiring a 82% holding in Canadian Airlines instead. In the first year of the new millennium, there was a redistribution of routes and responsibilities between the two companies.

Canadian Airlines continued to operate independently for a short time, but its aircraft were eventually repainted into the Air Canada livery. During this transitional period its jets wore a hybrid colour scheme of the national carrier's tail design, while retaining the name 'Canadi>n' on the fuselage. *PIVA*

IT HAD NO OPTION BUT TO FILE FOR BANKRUPTCY BECOMING ONE OF THE FIRST CARRIERS TO SUCCUMB FOLLOWING THE SEPTEMBER 11 TERRORIST ATTACKS ON THE US

an attempt to strengthen itself against competition from Air Canada, Canadian Airlines acquired Wardair Canada, giving it access to new routes, including long sought-after links to the UK and Europe.

The company took delivery of its first 767 in 1988 and this was followed two years later by the arrival of its initial 747-400. Its fleet of 747s was eventually named after famous Canadian aviation pioneers including Grant McConachie, Maxwell Ward, T Russ Baker and Rhys T Eyton, the former President and CEO of

This Douglas DC 8-63, C-GQBA (c/n 46155) was operated by Quebecair under a lease agreement from International Air Lease between May 1984 and September 1996. It was later acquired and flown Nationalair.



SUBSCRIBERS
CALL FOR YOUR
SPECIALS' DISCOUNT

£4.99
INC
FREE P&P*



AIRLINER CLASSICS 4

The latest edition of the tribute to the classic years of aviation. Featuring Concorde & British Eagle

100
PAGES

£4.99
INC
FREE P&P*



SPITFIRE 75

In this 75th anniversary year, the team behind FlyPast magazine present a special tribute to the Spitfire.

100
PAGES

£4.99
INC
FREE P&P*



UK AIRPOWER

A look at the aviation assets of the British forces following the 2010 Strategic Defence and Security Review.

116
PAGES

£4.99
INC
FREE P&P*



FALKLANDS

In this 75th anniversary year, the team behind FlyPast magazine present a special tribute to the Spitfire

100
PAGES

£4.99
INC
FREE P&P*



AIRLINER CLASSICS 3

The Airliner World team turns the clock back to bring you the aircraft, airlines and airports.

100
PAGES

£4.99
INC
FREE P&P*



BEAUFIGHTER

The team behind FlyPast magazine present a long overdue tribute to Bristol's Valiant warrior.

100
PAGES

£4.99
INC
FREE P&P*



BOMBER COMMAND

The team behind FlyPast magazine present a long overdue tribute to the men and machines of Bomber Command.

100
PAGES

£4.99
INC
FREE P&P*



RAF 2012

Behind the scenes insight into the aircraft, equipment and people of one of the world's premier air forces

132
PAGES

AVIATION SPECIALS

ESSENTIAL reading from the teams behind your FAVOURITE magazines

HOW TO ORDER

VISIT  OR  PHONE
www.keypublishing.com/shop UK: 01780 480404
ROW: (+44)1780 480404

*Free postage and packaging UK & EFTA only on orders up to a value of £19.99. EU £1.99, USA \$2.99, ROW £3.99. **Subscriber discount not valid for App copies.

NEW FREE Aviation Specials App



Simply download to purchase digital versions of your favourite aviation specials in one handy place! Once you have the app, you will be able to download new, out of print or archive specials for less than the cover price!

IN APP ISSUES
£3.99

nextmonth

The **BUMPER 116 PAGE** OCTOBER
2012 issue of **Airliner World**
includes:

FREE

AIRBUS SPECIAL

On the 40th anniversary of the first flight of the Airbus A300, Airliner World provides a **32-PAGE SUPPLEMENT** on all the European manufacturer's commercial aircraft

DELTA AIR LINES

One of the USA's largest and oldest carriers

MONARCH AIRLINES

A report from the carrier's Maintenance, Repair and Overhaul base at London/Luton

AVIENT CARGO

Onboard a McDonnell Douglas MD-11 with the African freight operator

NORWICH AIRPORT

Expanding Eastern England hub

BAGHDAD AIRPORT

All the active and stored aircraft of the Iraqi Airways' fleet

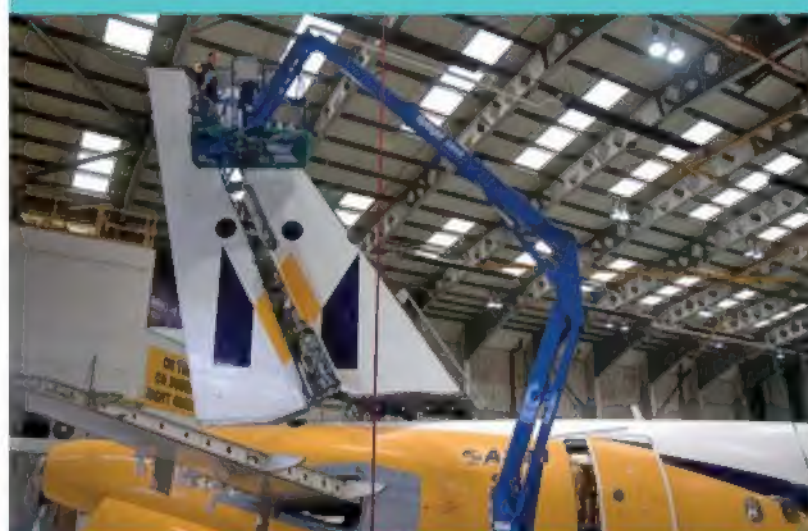
PLUS

Airliner World's comprehensive 20+ pages of global NEWS.

(contents subject to change)

ON SALE SEPTEMBER 12*

(*UK scheduled on sale date. Please note that the overseas delivery dates are likely to be after this date.)



key

Acronyms and abbreviations have become an intrinsic part of business speak. In the commercial aviation business their usage has become unavoidable and in the following table we try to guide you through some of those most commonly-used examples in the pages of Airliner World. This list will be regularly updated.

AAIB	Air Accidents Investigation Branch (UK)
ACAS	Airborne Collision-Avoidance System
ADR	Accident Data Recorder
ALPA	Air Line Pilots Association (US)
ANS	Airborne Navigation System
APU	Auxiliary Power Unit
ATC	Air Traffic Control
ATP	Advanced Turbo-Prop (BAe)
ATS	Air Traffic Service
BAe	British Aerospace (now renamed BAE Systems)
CAA	Civil Aviation Authority (UK)
CDA	Continuous Descent Approach
CEO	Chief Executive Officer
CIS	Commonwealth of Independent States (formerly Soviet Union)
c/n	Construction number
combi	Aircraft that routinely carry passengers and cargo on the main deck at the same time
CVR	Cockpit Voice Recorder
dB	Decibel
DfT	Department for Transport (UK)
DME	Distance-Measuring Equipment
EADS	European Aeronautic Defence and Space Company
EASA	European Aviation Safety Agency
ERAA	European Regions Airline Association
EROPS	Extended-Range Operations

ETOPS	Extended-range Twin-engine Operations
FAA	Federal Aviation Administration (US)
FAI	Fédération Aéronautique Internationale (France)
FAR	Federal Aviation Regulations (US)
FBO	Fixed Base Operator
FDR	Flight Data Recorder
FL	Flight Level (usually expressed in hundreds of feet)
FOD	Foreign Object Damage
GA	General Aviation
GAPAN	Guild of Air Pilots And Navigators (UK)
GDP	Global Domestic Product
GE	General Electric
GECAS	GE Capital Aviation Services
GMT	Greenwich Mean Time
GNS	Global Navigation System
GPS	Global Positioning System
GPU	Ground Power Unit
IACA	International Air Carrier Association
IAP	International Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Air Line Pilots Associations
IFR	Instrument Flight Rules
ILFC	International Lease Finance Corporation
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
INS	Inertial Navigation System
JAA	Joint Aviation Authorities (European)
LCC	Low-Cost Carrier
LCD	Liquid Crystal Display

LED	Light-Emitting Diode
localiser	steering guidance element of an ILS system
LORAN	Long Range Aid to Navigation
MD	Managing Director
MLS	Microwave Landing System
MLW	Maximum Landing Weight
MoD	Ministry of Defence (UK)
MoU	Memorandum of Understanding
MRO	Maintenance, Repair and Overhaul
MTOW	Maximum Take-Off Weight
NASA	National Aeronautics and Space Administration (US)
NATO	North Atlantic Treaty Organization
NBAA	National Business Aircraft Association (US)
OFI	Office of Fair Trading (UK)
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
pax	Passenger
P&W	Pratt & Whitney
PPL	Private Pilot's Licence
PR	Public Relations
RFP	Request for Proposals
RVR	Runway Visual Range
SARS	Severe Acute Respiratory Syndrome
SID	Standard Instrument Departure
STAR	Standard Terminal Arrival Route
STOL	Short Take-Off & Landing
TCAS	Traffic alert and Collision-Avoidance System
TWR	Tower — airport control tower
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VOR	VHF omni-directional range (radio beacons)

sky
is
earth

More than flying, a series of inexplicable sensations.

OVO-04

Full motion cabin flight simulator.

VirtualFly

+34 938 333 301 · www.virtual-fly.com

Official dealers:



www.theindoorairline.com



www.aeroteca.com



www.kuwaitfsc.com



www.loshalcones.edu.co



AirNav RadarBox-3D



AirNav Systems

The Most Trusted Name in Flight Tracking

For Latest Information Check:
www.airnavsystems.com

Now Recognised As A Leader
In PC "Desktop Radar"

SEE AIRCRAFT LIVE!
SEE ALL THE INFO!

-HEIGHT

-SPEED

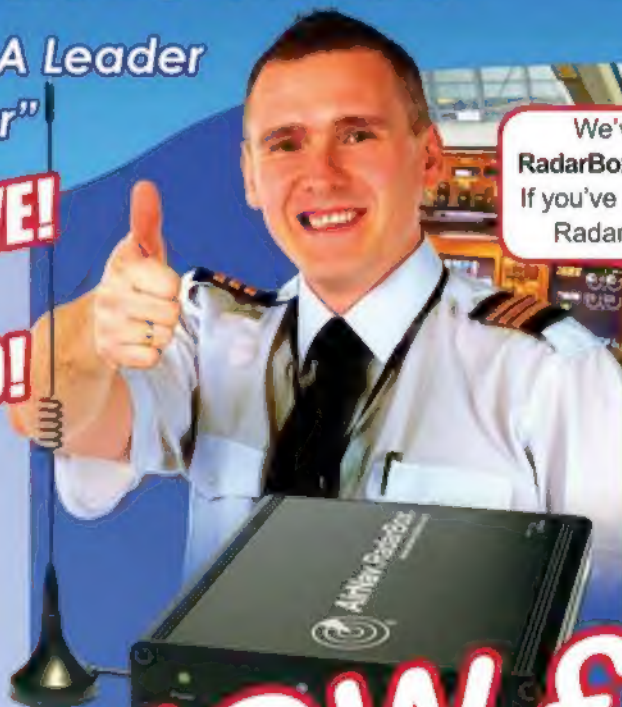
-REGISTRATION

-LIBRARY PICTURE

-DEPARTURE

-DESTINATION

RadarBox-3D £489



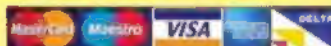
We've lowered the price of the
RadarBox-Pro by £100 from £399 to **£299!**
If you've always wanted to try the AirNav
RadarBox now is the time to do it!

NOW £299!

Free Next Working Day Delivery

To Order Now Call

01702 206835



Special Educational
discount to approved
organisations.

SHIPTRAX also from AirNav Systems

NEW See the exact position of Ships Worldwide!

ShipTrax is an advanced Windows based Ship Tracking application. It receives ship data from various sources (AIS, TCP/IP, AIS Nees works) allowing you to track ships worldwide in real-time. Just plug the supplied receiver into the USB port of your PC and load the software. The supplied miniature antenna picks up the data - LIVE!

Data displayed on maps includes Vessel name, Position, Photo, Location, Speed, Track, IMO.MMSI, Call sign, Vessel type, Length and voyage details. Also includes personal log book. Now you can track your favourite cruise liner wherever it goes!

ShipTrax-Pro £399

The standard system that includes receiver, antenna and software. It provides a flat display on your PC/laptop screen and is ideal for normal use.

ShipTrax-3D £489

The 3D version adds the dimension of Google 3D mapping systems that gives the most realistic views possible in great detail and is particularly effective for river traffic and docks.



WATERS & STANTON

Order Online At
www.wsplc.com

To Order Call: 01702 206835 Or Visit Us At:
W&S, 22 Main Rd, Hockley, Essex, S55 4QS, or
Jaycee, 20 Woodside Way, Glenrothes, Fife, KY7 5DF

This Product Is Available From These Dealers

Transair	5 Locations	01273 466000
Airplan	Manchester	0161 4990023
Radio World	Birmingham	01922 414796
Lam Comms	Doncaster	01226 361700
Rocket Radio	Letchworth	01462 675481

Airband-Online	Macclesfield	07876 561041
Air Supply	Leeds	0133 2509581
Jaycee Elec.	Glenrothes	01592 756962
BHI Ltd	Burgess Hill	0845 2179926
Coastal Comms	Clacton-On-Sea	01255 474292
Flightstore	West Yorkshire	01924 509273
The Aviaton Shop	Manchester Airport	0161 4892444
SE Comms	Elre	353 51 389666

K.K.Electronics	London	020 74024592
Caltec	Belfast	07533091146
Harry Mendelsohn	Edinburgh	0131 4477777
Javiation	Bradford	01274 639503
Anchor Supplies	Nottingham	0115 9864902
The Flying Shop	Biggin Hill Airport	01959 579800
Moonraker	Buckinghamshire	01908 281705
ML&S	Chertsey	0845 2300599